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Original Communications.

THE TREATMENT OF SOME SERIOUS AFFECTIONS: BEING THE ADDRESS IN MEDICINE BEFORE THE MEDICAL SOCIETY OF THE STATE OF OHIO IN 1898.

BY H. A. HARE, M.D.,
Professor of Therapeutics and Materia Medica in the Jefferson Medical College, Philadelphia.

When I accepted the courteous invitation of your secretary to deliver the address in Medicine before the Ohio Medical Society it occurred to me that I could not do better than to consider a number of topics of a medical character rather than one general theme. We are met together to discuss those matters which will prove of benefit to us in the practise of our profession, and our object is to go to our homes with clear and distinct ideas as to the methods we should employ in the diagnosis and treatment of disease.

The first subject of which I desire to speak is the proper treatment of typhoid fever, a subject which seems so hackneyed as to be worthy of instant dismissal; yet who of us with experience can claim that the ideal treatment of this malady is as yet discovered? Yet this ideal should not be far to seek, for the mortality of the disease must remain at a

certain point as long as the disease occurs—that is to say, a certain proportion of cases in which great susceptibility to the disease exists, or who receive a very virulent dose of the infection and who come under our care late in the malady, must die as long as we are all mortal. The death-rate from typhoid fever is to-day less than it has ever been, and this decrease is all over the world chiefly as a result of prophylaxis, for by this means the number of cases has been decreased in a manner almost equal to the decrease in smallpox since the use of vaccination. Thus in Munich the mortality from typhoid fever has decreased from 453 per 100,000 in 1858 to 3.4 per 100,000 in 1896 as a result of improved drainage, and in every city in the world this improvement, made *pari passu* with an improved water-supply, has produced results of almost equal degree. These facts I have still further emphasized in a paper read before the College of Physicians of Philadelphia in March last. The decreased death-rate also indicates a decreased severity of illness in those who recover, and thus we find that to-day typhoid fever is with a few exceptions distinctly on the wane as to severity and mortality. This decreased malignancy is not, however, the only cause of the decrease in death-rate, which has fallen from thirty or twenty-five per cent. to about fifteen per cent. or less in this country. It is due to the fact that the medical profession has learned one dominant fact, namely, that while they can modify the severity of typhoid fever by prophylaxis and by proper treatment, they cannot abort it or cure it. To express it briefly, the physician must guide his patient through the storm of his infection as a captain guides his ship. He can relieve dangerous symptoms, protect to some extent certain parts from fatal damage, place the whole system of his patient in a state best qualified to resist the disease; he can prolong it by bad treatment; but he cannot shorten the storm by any direct means. This fact rests upon two others, namely, that the infectious process runs a given course in each case so far as its length is concerned; and secondly, the physician, unlike the captain of a ship, takes charge of his patient not before the storm but after it has in gradually increasing intensity been developing in his patient for two weeks before it has manifested itself, and often for as long a period before its character is recognized. The pathological changes have been produced, and even if they do not progress further the process set up must run its course in the case of the intestine, for example, till the glandular changes are completed in ulceration or recovery. Every plan of treatment which has been tried in a sufficiently large number of cases to be studied statistically emphasizes these facts, and is directed to a modification of the symptoms and a protection of the patient against injury and not to a true cure in the sense of specific medication.

In Germany some forty years ago typhoid fever patients were treated by catharsis, emesis, and venesection. To-day the vast majority are treated by the cold bath, which, whatever objections may be raised to it, at least permits the system to combat disease and eliminate toxins without fighting the treatment in addition. Again, good nursing and the recognition that the conservation of energy is absolutely essential for the saving of life aid non-meddlesome methods.

At present there is another plan of treatment largely employed in the treatment of this disease, namely, that by antiseptics. In my belief both the bath method and the antiseptic plan are but gropings in the dark, each possessing a glimmer of the light of truth in them which prevents us being lost. It is a safe rule of practise to take a middle stand in accepting and carrying out any particularly highly lauded plan of treatment of disease. Particularly should the physician avoid routine plans of treatment, for as long as human beings differ in their characteristics and micro-organisms differ in their virulence, each and every patient must be treated by himself, or in other words the treatment must be varied by the necessities of the individual. For this reason the plunging of every patient in a tub of water at 70° F. because he has typhoid fever is not good therapeutics, and so the use of purgatives or intestinal antiseptics in practically unvarying amounts is unwise. All great underlying principles may be right in theory, but they must be so utilized as to meet the exigencies of life. In other words, the cold bath treatment and the antiseptic treatment do good in principle, but they must be suited to the patient before us.

There is not time in this discourse to show how a large part of the low mortality claimed by the enthusiastic followers of either of these plans is in part due to the careful nursing, feeding and stimulation of their patients. I have recently (THERAPEUTIC GAZETTE for March, 1898) seemed to prove that the bath only decreases the mortality about three per

cent. in itself. The chief fault with the adherents of both plans is that they are so well satisfied each with his method that they will not use the other, and nothing is more disastrous to patient and to the success of the doctor than the confidence of the latter that the plan he is using is the best to be found. It may be as good as he knows of, but his business is to find a better one always, or at least to seek for it.

In regard to the antiseptic treatment so called, it has not found general recognition because the grain of truth that intestinal fermentation and germ development is harmful has been surrounded with such a mass of theory not in accord with facts, and its technique has been so varied and so futile or heroic, that the grain of fact is overwhelmed. Intestinal antisepsis in typhoid fever is a good thing, but it is not the only good thing and often not a necessity. So, too, the bath is not the only thing needed or always a necessity. Beyond the use of antifermentative drugs to combat evidences of intestinal disorder, I confess that I have never resorted to this sole plan of treatment for the reasons given; and so, too, with the cold bath I have been impressed with the fact that the full cold bath is not for every one. As I have said before, every one does not need croton oil for constipation or twenty drops of digitalis for a failing heart. The skill of the physician consists in knowing not only the general remedy but the dose. It seems to me, therefore, that in the use of antiseptics and purgatives we should use judgment and not routine, and that the same rule holds true of baths.

It is our duty to understand the great underlying principles of a plan before we try it or modify it. In the case of the bath we find that its antipyretic powers are now recognized as being its least useful characteristics; that the most able hydrotherapeutists not only admit but assert that he who expects to throttle the fever by the use of the bath will be mistaken, and that the benefits to be derived lie in the improvement of the circulation, the overcoming of stasis, the production of leucocytosis, the encouragement of oxidation, and the reactive awakening of dormant and intoxicated venous centers. If these are the desiderata, how are they to be attained? Without doubt in a fairly large proportion of cases, in which the temperature is high and in itself dangerous because of its height, by the use of the plunge we get effects which are most desirable; but there are conditions of mind and body which are capable of contraindicating the bath just as there may be conditions contraindicating the use of quinine in malaria. Are we then to ignore the contraindication, or are we to allow the patient to suffer for want of these beneficent effects? We are to do neither, but to devise another plan for producing them without the factors contraindicated. This can be done by a modification of the cold bath in such a way as to preserve some of its good and excluding its evil effects, and we find its type in the profusely applied cold sponging. I believe this should be used as follows to produce the effects needed, and just as the bath will prove futile if badly given, so will the sponging: The patient should be placed on a blanket on his own bed, stripped, and the nurse should then apply rapidly over his surface a sponge dipped in water varying in temperature with his reactive power and persistency of temperature. It is my custom in the presence of moderate fever, say of 102.5°, to order sponging with water at 70°; if the temperature does not fall readily under this, to use water at 60°, 50°, or with ice in it. At the same time that the cold is applied the patient is thoroughly and actively rubbed by another until reaction takes place and the surface of his body is bright red. By this treatment the vascular tone can be as well if not better maintained than if the patient is put in a tub, and no cyanosis and severe shivering occurs. Further, it is possible to properly rub and sponge the great muscles of the back, in which region stasis and bed-sores often form, and it is worthy of note that these parts are not rubbed when the patient is in the tub. The rubbing, or massage, is a very important part of the bath, and if it is not performed both the tub bath and sponge bath are nearly futile. In these cases, when the fever is not marked—that is, as high as 102°—sponging with alcohol and rubbing may be used to maintain capillary circulation and improve the nutrition of the connective tissues. We are told by the full bath advocates in this country to tub all cases unless they have hemorrhages or perforation or are far advanced in the disease. It seems very much more rational to suit the needs of each case by modifying the bath, provided we are sure to obtain reaction and overcome stasis and improve nervous tone.

Finally, in regard to typhoid fever let me urge upon your attention the wisdom of giving a more generous diet during the course of this exhausting malady. Surely a pure milk

diet is needlessly scant and loads the stomach with large quantities of liquid. Eggs up to three or four a day, soft custards, arrowroot and thin corn-starch may often be given with advantage, and even meat broths may be used, although they sometimes cause diarrhea and may act as culture media for the bacillus. If Graves' epitaph was to be "he fed fevers," surely typhoid fever is one of them.

Another subject to which we may turn with interest is the treatment of diabetes mellitus. This disease is apparently very greatly on the increase, as I pointed out in a brief paper published about a year ago. The statistics then published showed that the increase seems to be well distributed all over the world, although it is greater in Europe than in the United States. On the one hand the claim has been made that this increase is not real but due to the fact that more careful and competent urinary examinations are made to-day than formerly; on the other hand it is now recognized that glycosuria or sugar in the urine is not diabetes, although it may be—when joined with other symptoms—one of the necessary facts to complete the symptom-complex of the malady. Again, the increasing frequency of the disease is shown by the mortality lists due to this cause and not by the reports as to the frequency of this ailment in living persons. The important thing for us to remember, after recalling the fact that glycosuria in itself is not diabetes mellitus but in some cases a mere overflow of carbohydrate material, is the fact that the malady is a symptom, not a disease in itself. It may arise from a number of causes, and each of these seems widely separated in physiology. This being the case it is not hard to discover why one case will be greatly benefited and another not aided by any particular plan of treatment.

There is not time for me to discuss with you the latest and most probable theories and results in studying diabetes. I wish, however, to call your attention once more to the fact that in that class of patients in which diabetes mellitus is most commonly met with, namely, Israelites, the use of full amounts of opium in conjunction with careful regulation of the diet seems very efficacious in a fairly large proportion of cases. The notes of one case in particular will be of interest in this connection, the more so as they illustrate how patients suffering from true diabetes mellitus can not only obtain good results from the use of large doses of opium, but also utilize the drug in the system to such an extent as to have almost none of the evidences of its action.

J. M., a Hebrew, aged forty-seven; a salesman. His past history was uncertain. He stated he had had a great deal of trouble recently. His present trouble commenced about seven or eight months ago, when he noticed that he had a great thirst, and drank large amounts of water; he also passed a large amount of urine and his appetite increased greatly. He has lost about thirty pounds in weight since his trouble began. He complains of swelling in his feet and is very weak. For the past three or four days his bowels have been very loose. Patellar reflexes absent entirely, and Argyle-Robertson pupils absent. The ophthalmoscopic examination was negative. The media were clear and the eye grounds were normal. An examination of his urine revealed a specific gravity of 1040; color pale; reaction acid; urea eight grains to ounce; sugar eight and a half grains to ounce; no albumen. The amount of urine passed in twenty-four hours varied from sixty-four to seventy-four ounces.

January 25, 1898. He was put on a diet consisting of eggs, meats, chicken, and milk; and the examination of the urine on February 7, 1898, showed that he passed forty ounces in twenty-four hours, with a specific gravity of 1040, and that the sugar had been decreased to 2.67 grains to the ounce.

The gain so far was of course the result of strict diet. He was now placed on ascending doses of opium amounting to one grain three times a day, to be gradually increased.

On February 12 a urinary examination showed sugar 2.29 grains to the ounce. February 17 he was taking three and a half grains of opium three times a day, and the urine when examined showed sugar 1.78 grains to the ounce and otherwise negative. On February 20 urine examination showed sugar 1.6 grains to the ounce; otherwise negative. On February 24 urine examination was negative; no sugar apparent. On February 26 there was noted a slight return of patellar reflexes, and on February 27 the urine examination was negative in result. He was then taking six grains of powdered opium three times daily. On March 3 urine examination was negative; taking seven grains opium three times a day. And on March 4 urine examination showed a specific gravity of 1020—acid; no sugar or albumen. At no time was there the slightest sign of the physiological action of the drug in any part of the

body, save in the decrease and disappearance of sugar.

The development of aneurismal growths involving the larger vessels has been for many years a source of much distress to medical men, not only because the condition is in itself very grave, but also because it has been one which we have been practically unable to control. The gradual increase in the disease process, the constant distress of the patient in body and mind, and finally the inevitable death from rupture, all render such cases worthy of our pity and of every effort capable of producing cure. It is true that such cases are not always rapidly fatal, but the writer has seen only one instance of aortic aneurism which reached large dimensions in which the patient's life has been prolonged for years and with the power of following her ordinary occupation.

Because of the inevitable fatal ending of these cases surgeons have resorted to many different and heroic measures for their relief, such as the injection of irritants into near-by tissues, the introduction of horsehair or other foreign bodies into the sac, and the passing in of a long platinum needle through which was passed an electrolytic current. All of these measures have failed to produce desirable results and some have done actual harm. There seems to be only one non-medicinal moderately safe and rational method of dealing with aortic aneurism, namely, the method originally devised by Coradi and which has been employed in fourteen cases up to the present time, my own patient being the fourteenth. When we consider the great fatality of aneurism of the aorta, the many accidents which may occur to such patients, and the impossibility of knowing beforehand the exact size and shape of the aneurismal sac, the fact that no one of these fourteen cases has died during the operation is remarkable, and the prolongation of life in a number of them may be said to have thrown much credit upon this procedure. This consists in passing into the sac through a hollow needle a number of feet of wire which has previously been perfectly drawn so that kinks do not readily form in it. The wire is first wound around a small glass spool, so that when it is removed from the spool it will speedily coil up again. After a number of feet have been introduced according to the size of the sac, the wire is attached by its external end to the positive pole of a galvanic battery, while a large wet clay electrode is placed on the abdomen or on the small of the back. By means of a rheostat the current is now gradually turned on to the amount of about twenty milliamperes, at which strength it passes for about ten minutes. After this the current is gradually increased until about seventy milliamperes are passing, and this may be continued for about one hour. The duration depends, however, upon the signs presented by the aneurism and the patient. If it is evident that the process of coagulation of blood about the wire is well advanced early in the operation, the current is not continued as long as if clotting goes on slowly. As a rule, within an hour or even half an hour, the needle is found to be partly fixed or at least not to be so freely movable by the fingers of the operator or the blood stream itself, and this of course indicates that the clot is holding it in place. The following is the history of my patient, which, as it covers many of the important points connected with the operation, is worth reading:

A man aged forty-six entered my ward in the Jefferson Medical College Hospital early in February, 1898. He has an old specific history, a history of muscular strain and of a bad burn. On admission he suffered from pain, dyspnea, and cardiac disturbance. The pain was typically cardiac and radiated down his left shoulder and arm. On examining his chest a well marked bruit was heard over the entire præcordium and well over to the right and left, and the points of greatest intensity of thrill and bruit were found in the second left intercostal spaces anteriorly. At this point auscultation revealed a loud bruit unmistakably aneurismal, and palpation showed the characteristic expansile pulsation. No marked physical signs could be developed posteriorly. A diagnosis of aneurism of the latter portion of the transverse and beginning of the descending aorta was made. He now developed a brassy cough and was slightly hoarse. Later his sputum was tinged with bright blood, and the pain in the eroded ribs became excessive. As the patient had not improved under the use of ascending doses of the iodide of potassium, combined with aconite to lower arterial tension and quiet the action of the heart, and as the persistently bloody sputum seemed to indicate that the growth was perhaps about to rupture into a bronchus, I advised him to submit to the introduction of wire and the use of electrolysis, although he was informed of its danger and possible failure of doing good.

To this proposition he consented, and on Thursday, March 3, before my class, I per-

formed the operation with the kind assistance of Dr. D. D. Stewart, who has now done the operation a number of times. The skin over the aneurismal sac was first prepared for the operation by being sterilized. A few drops of a solution of eucaine were next inserted under the skin over the sac to produce dermal anesthesia, and then a gold needle hollowed out like a large antitoxin needle was passed directly into the sac. As soon as it entered the sac blood spurted from it freely, showing that the puncture had been a true one. Fine gold wire was now passed slowly into the sac through the cannula until nine feet had been introduced, when the external end of the wire was attached to the anodal pole of a battery and the current turned on, at first twenty, then forty, and finally seventy milliamperes. Very shortly after the stronger current was applied the needle was seen to be moving less freely, and on testing it with my fingers I found that it gave the sensation of being partly fixed at its internal tip. At the end of an hour and twenty minutes the current was stopped and the needle carefully withdrawn, no flow of blood taking place. The wire was snipped off close to the skin and its end pushed under it. For several hours after the patient was slightly shocked, largely because of his nervousness before and during the operation. After this he speedily rallied, and the next day almost all the bruit had disappeared, until in forty-eight hours it had all gone. The expansile pulsation was also greatly decreased and the thrill much lessened.

I should have stated that care must be taken that the needle is perfectly insulated, as otherwise the skin about the entrance of the needle will slough badly.

The subsequent history of the patient is as follows: Five weeks later the patient is recorded as having been sitting up in a chair by the side of his bed for the past ten days. The expansile pulsation and thrill have entirely disappeared, and the impulse in the second left intercostal space feels like the apex beat would feel if displaced. The bruit has entirely disappeared, and only a double aortic murmur is to be heard. The area over which these murmurs are heard is less than one-half that in which the bruit was heard before the operation. There has been no blood spitting. Cough has ceased. The patient now walks to and from the bath-room with ease. He has had at times severe pains in the chest, which he thinks were chiefly due to "the wire sticking in his skin." He has no dyspnea and no loss of voice. It is now eight weeks since the operation and he continues to improve. The result so far is certainly very promising.

Finally, let me call your attention to the following case operated upon by Stewart in 1893, which lived till the early part of 1897, then died of pneumonia. He was repeatedly under my care in my wards in the winter of 1895 and 1896, and while there I had the pictures taken which I now hand to you, and which I utilized in my book on Diagnosis and in an editorial on a case of this character reported by Hershey of Colorado in the THERAPEUTIC GAZETTE for September, 1896. The large size and great erosion in this sac, which made death seem imminent and inevitable when the operation was done, certainly greatly prolonged his life, made him comfortable, and relieved him from suffering entirely.

It is manifest that a large proportion of these cases cannot be benefited by any measure, but if we can save even a small percentage of patients suffering from an otherwise fatal malady it is certainly worth trying, particularly as they may return to work and usefulness, as for example in Noble's case of abdominal aneurism operated upon after celiotomy had been performed.

At the risk of being accused of harping upon one topic too continuously I wish to call your attention to two methods of treatment which are in my experience distinctly palliative if not curative in pulmonary tuberculosis. The first of these is the use of camphoric acid in the treatment of night sweats. It has proved so constantly serviceable in my hospital wards and practise for a number of years that I am anxious to see its use more general. If given long enough before the sweat to permit of its absorption, so that its effects may be well exerted, it gives results far better than any other antisudorific with which I am acquainted, if given in cachet in the dose of ten to twenty grains. Even larger doses may readily be used. A very important fact is that it seems devoid of any disagreeable action and does not arrest the other secretions of the body as does atropine.

The second remedy to which I wish to call your attention is the oil of cloves given, by the mouth and hypodermically, for the purpose of decreasing cough and expectoration in advanced pulmonary tuberculosis. Of this treatment I have spoken before, and my further experience confirms my favorable

opinion of it. The use of the oil hypodermically in the dose of five drops mixed with thirty to sixty minims of the best French olive oil, sterilized, is productive of considerable local pain for a number of minutes, but the anesthetic properties of the oil soon overcome this and patients tell me that the relief from cough more than repays them for the pain. The injection is given once a day into the loose tissues of the back. For its simultaneous internal use it is best given an hour after meals in five-, ten- or fifteen-drop doses. These doses must be used with caution as the oil may disorder the stomach. Not only is the cough and expectoration greatly decreased, but the sweats and hectic fever are generally modified to a very great extent.

Last, but not least, in this brief review of some of the less common remedies, let me say a few words in regard to the value of camphor as a general diffusible stimulant in exhausting diseases and for the same purposes in medicine as we commonly employ strychnine at this time. Graves, of Dublin, regarded it as one of the best remedies we possess for the prevention or relief of collapse, and yet the profession has, in its search for new things, given it far less attention than it deserves. It has been found of great value both when given internally and hypodermically in such severe maladies as Asiatic cholera and many other ailments. A large amount of literature might be gathered concerning its value, but I need only quote Alexander, who has used it successfully in the exhaustion of phthisis, and Schilling, who has found its value to be very great in nearly all the severe infectious maladies. While it quiets nervous excitement it seems at the same time to support the circulatory and nervous systems. In advanced typhoid fever I have found it very valuable. The doses I have employed have been fifteen to thirty minims of a 1-to-15 olive oil solution of the drug given hypodermically, and my resident physicians having seen its beneficial results have used it without my orders in a number of urgent cases when I could not be consulted, so effective have they found its action to be.

Our knowledge as to pathology continues to advance not only in respect to new diseases, but far more important in its relation to states which have been thought heretofore to be thoroughly understood. These advances are not alone of scientific interest, for they open up new possibilities as to treatment and explain symptoms hitherto unrecognized or misunderstood. A few years since the majority of medical men considered that the last new thing had been said about burns and their treatment, or at least that the pathological results of burns were well understood. More recent studies have, however, revealed the fact that there is much to be considered in connection with burn cases over and above the local condition produced by the heat, the more deeply seated secondary lesions and the shock from which the patient suffers. It has been found that a toxemia develops which is an important factor in destroying the patient's life, and that it is our duty to combat this condition quite as much as it is to combat the local damage.

Time does not suffice in which to go over the whole experimental proof of these facts, and it is only necessary to quote some recent studies of Tomasoli, who injured dogs and rabbits by burning, and then studied the effects of hypodermoclysis in aiding them in the elimination of toxins and the survival of shock. All the test animals which did not receive the saline solution in the manner named died within forty-eight hours of the injury, and Tomasoli found that blood serum taken from these animals, being injected into a healthy dog, that animal will die. If, on the other hand, similar animals receive saline injections they nearly always recover. Thus out of ten animals which were burnt and injected only two died, and these apparently from the direct injury rather than from toxemia; and serum taken from the injected dogs when injected into healthy dogs did not produce death as did that from the non-injected animals. Putting these facts to practical use Tomasoli employed similar injections in cases of severe burns in human beings, using 500 to 1000 cubic centimeters of saline solution, and obtained good results therefrom. Whatever may be the ultimate decision in regard to these studies, they open up for us an interesting line in practical research and promise of an additional means of treating a serious medico-surgical condition.

Let me urge upon those whom I have the honor to address one fact in regard to therapeutics which it is well for practitioners to remember when confronted with conditions which seem baffling: namely, that while much of the therapeutics of fifty years ago was crude and not in accord with modern views as to disease processes, much of it was sound. We are so put to it to cure our patients, and so con-

stantly brought face to face with the fact that they are but mortals like ourselves, that we are apt to be off with the old love and on with the new. These facts were recently brought to my attention very forcibly by the following episode: A patient suffering from chronic renal disease with considerable anasarca, marked uremic amblyopia, and the passage of a very scanty amount of urine heavily loaded with albumen and containing very little urea in the twenty-four hours, was given several of the newer diuretics without any material effect. It then occurred to me to employ the old-fashioned prescription of an ounce of juniper berries in a pint of boiling water, to which was added an ounce of potassium bitartrate. The total amount was taken, when cooled, in wineglassful doses, with the result that in a few days the urine increased to a point beyond the ordinary in quantity, the anasarca began to disappear, the vision greatly improved, and the patient passed the normal daily amount of urea. If this remedy had been new it would have been considered quite startling in its effects and widely used when other cases fared as well under it, yet I venture to say that the use of other old remedies which we have discarded at least in part would be fraught with equally good results when newer drugs fail.

While the discovery of the anesthetic properties of ether and chloroform has been followed by the introduction of other agents capable of producing general anesthesia, it is an undeniable fact that our knowledge concerning drugs capable of producing this action, both in regard to the action of old ones and the introduction of new ones, has been disappointingly scanty. Beyond the studies which have been made of the influence of ordinary anesthetic agents upon the respiration and circulation, we know little more to-day as to the method in which anesthesia is actually produced than did our predecessors fifty years ago; and no one has yet succeeded in inventing a substance which has any prospect of supplanting the common anesthetics, which we all recognize have certain distinct disadvantages. In the absence of newer anesthetics it is well for us to continually be on the lookout for improved methods of administering the old ones, and while the majority of physicians are content with the crude methods of previous years, there are others of a more investigating turn of mind who have endeavored to devise methods which would remove many of the disadvantages associated with the older procedures. The number of inhalers which have been upon the market for the use of ether and chloroform is exceedingly numerous, and while their inventors have claimed for them very extraordinary advantages, it remains a fact that the Esmarch inhaler for chloroform and the Allis inhaler for ether are the only ones that have anything like universal recognition, at least in this country; and very many persons are to be found in the profession who freely state that the old-fashioned ether cone and the administration of chloroform dropped upon a napkin still remain our most efficient methods of using these two drugs.

Within the last few years a number of physicians have employed the simultaneous administration of anesthetic vapor and oxygen gas and have found that this combination, particularly when ether is given, tends to prevent vomiting both during and after the operation, that cyanosis rarely occurs, and that the general progress of the case through the influence of the anesthetic is better than under the older methods. For the purpose of this double administration various forms of apparatus have been devised. In several of them the patient is provided with anesthetic vapor and pure oxygen gas alone. In others, and these are rarely met with, he is allowed to have some atmospheric air. In nearly all of the apparatus that we have seen the oxygen gas bubbles up through the ether or chloroform, which has been placed in a wash-bottle, and passes over to the patient's lungs, loaded with the vapor of the anesthetic. There are without doubt certain grave objections to this procedure, for the quantity of oxygen provided to the patient cannot be increased without also increasing the quantity of anesthetic supplied to him; neither can the quantity of anesthetic be increased without increasing the quantity of oxygen, and there are times in every operation in which it is desirable to increase or decrease one of these agents. Then, too, if too much oxygen is given the respiratory center becomes benumbed by superoxygenation of the blood, partial or complete respiratory arrest follows, which is in this instance without any material danger, but with the arrest of respiration it is impossible to give the patient more ether as he does not draw it into his lungs.

By far the best way to use oxygen when ether is given—and I think it always should be employed, if possible—is to allow the oxy-

gen to bubble up in the wash-bottle, thus passing from the cylinder which contains it to the ordinary inhaler which is held over the patient's mouth and nose, the ether being poured upon the inhaler in the quantities which are needed and the oxygen being supplied to the patient by slipping the tube under the edge of the inhaler by the patient's mouth and nose. In this way the patient receives the air which he ought to breathe, the anesthetic vapor, and the additional oxygen, which prevents the disagreeable symptoms which are so frequently met with. In no instance should that apparatus be employed which is now marketed by a number of instrument-makers in which the patient exhales into a large rubber bag which is inflated with each expiration and deflated with each inspiration, the contents of which soon become surcharged with vitiated air, exhaled anesthetic vapor, and impure oxygen. In all such procedures it is wise to let the patient breathe in as nearly a normal manner as possible, and the more simple the apparatus the better it is for the physician and patient. When it comes to administering chloroform by passing oxygen gas through it the objections are still greater. We are learning more and more each day that chloroform when exposed to daylight and the air is capable of undergoing certain degenerative changes, and that the results of these changes are harmful to the patient. Further than this, in chloroform anesthesia it is often necessary to give the patient pure oxygen, but this cannot be done if this double method of passing oxygen gas through the chloroform liquid is carried out. Here, again, we believe that the chloroform vapor and oxygen gas should be kept separate and administered simultaneously or apart as the necessities of the case demand.

The writer desires to protest very emphatically against a habit which seems to be prevalent among young hospital internes, namely, of providing themselves with mouth-gags and tongue-forceps whenever they are about to anesthetize a patient. The writer has seen innumerable cases put under the influence of anesthetics and has made a study of these drugs for years. During that time he has never seen an instance in which it has been necessary to force the patient's jaws apart and keep them so by means of a mouth-gag, except, of course, in cases of operations about the mouth; nor has he seen any instance in which it seemed to him justifiable to pierce the tongue of the patient by means of that form of tongue-forceps which is provided with one flat blade and one blade armed with two sharp teeth, which pass all the way through this organ, thereby puncturing and bruising it.

The proper manipulation of the head and jaw and neck in the presence of anesthetic accidents in the vast majority of cases is sufficient, and in some instances the forcing open of the jaws and the holding them open by means of the mouth-gag has seemed to aid in the obstruction to breathing by causing the relaxed tongue to fall back into the posterior portion of the mouth, just as it does in a person who is sleeping heavily with the mouth open. The writer mentioned these facts at a recent meeting of the Section on Surgery of the College of Physicians of Philadelphia, and several surgeons who spoke after him agreed that there was rarely, if ever, except in mouth operations, any necessity for the use of these two instruments. They also stated that they had endeavored to find out, without success, who was responsible for teaching medical students their use during anesthesia, as they themselves never employed them nor directed their assistants so to do.

There is no doubt that the mouth-gag and the tongue-forceps are gravely abused, and even if they do no harm during anesthesia, it certainly is unnecessary to produce the after-suffering and discomfort in the mouth which the tongue-forceps often produce.

Finally, the writer desires to express his belief that it is a vital mistake for surgeons to urge upon their assistants the necessity of hurry in producing anesthesia. No physician would think of giving such an enormous dose of chloral that his patient would pass from a condition of wakefulness to deep sleep in the course of two or three minutes. Why should we employ such powerful and rapid-acting drugs as ether and chloroform in such concentrated vapor as to almost instantly produce surgical anesthesia? If the anesthetics are given gently and gradually until the nervous system, both centrally and peripherally, is benumbed, and then pushed as hard as seems wise, disagreeable interruptions of the operation because of threatened accidents, and accidents themselves, will be avoided; for the patient will not struggle and strain his heart and respiratory system at the beginning of the operation, and the general nervous system will not only be saved a large amount of nervous exhaustion, but be protected from shock. Those persons who

have suffered from nightmare are well acquainted with the horrible nervous condition in which they find themselves on awaking, and in many instances the early stages of anesthesia, particularly to a timid woman, are like those of a dreadful nightmare. In one instance a woman who took ether told the writer that she had a delusion that some one was choking her to death, and in this delusion she was not very far wrong, as the writer saw the anesthetist jam the ether cone over her face and hold it there despite her violent struggles, which produced deep cyanosis.

The old saying, "Familiarity breeds contempt," is particularly applicable to the use of anesthetics. Surgeons are so apt to administer these drugs day after day and to be content with the recovery of the patient from the anesthetic on the operating table, or shortly after leaving it, that they entirely overlook these evidences of grave nervous shock which the physician or neurologist frequently meets with after patients have been discharged by the surgeons as entirely well, so far as the operative procedure is concerned. There is reason to believe that with our advancing ideas in regard to the minute anatomy of the nervous system and our studies of the dendrites, at some time in the near future we will understand more clearly the minute physiological action of anesthetic drugs, and then it will be easier for the surgeon to appreciate the grave functional change taking place in the nervous system when they are administered.

In conclusion the writer desires to call attention to a fact already alluded to by him a number of times, and which was first called attention to by his colleague Dr. Martin and himself some ten years ago, namely, that the proper position for the head, when the patient is deeply anesthetized and it is desired to get a clear passageway for the air into the lungs, is in extension and somewhat thrown forward, instead of being extended and dropped backward from the end of the table. Extension and projection forward and backward both pull the epiglottis away from the glottic opening, but in the latter posture the soft palate is strapped over the dorsum of the tongue and the patient is forced to breathe through his nose, which is often partially or entirely occluded by mucus, by hypertrophies, or by polyps; whereas, if the head is extended and projected forward the patient can readily breathe through both the mouth and nasal chambers.

*SOME PRACTICAL POINTS IN THE TREATMENT OF LATE CUTANEOUS SYPHILIS.**

By M. B. Hartzell, M.D.,
Instructor in Dermatology, University of Pennsylvania.

It is not without considerable hesitation that I bring before this Society anything upon so trite a subject as the treatment of syphilis, a subject which has been so often and so exhaustively discussed that it may well be doubted if there be anything new left to be said. And it is not my purpose to present anything novel in the way of treatment; I have no new or wonderful drug, "made in Germany," warranted to accomplish the complete and lasting rejuvenation of the syphilitic, the virtues of which I wish to extol; but I desire to emphasize anew a few practical points in the treatment of some of the late manifestations of syphilis upon the skin, which my own experience has taught me to regard as useful.

The first point of which I shall speak is the effective dose of the iodides, especially the iodide of potassium, in the late eruptions of syphilis. As laid down in most text-books of therapeutics, the dose of potassium iodide is ten grains, repeated several times a day; a dose of less than five grains is almost never prescribed in syphilis, and fifteen- to twenty-grain doses are extremely common. Now it is a fact, easily verified by any one who will take the trouble to experiment in this direction, that much smaller doses than these are often quite effective, and promptly so, in causing the disappearance of the lesions of syphilis upon the skin. So small a dose as a single grain, given three or four times a day, will in many cases remove the tubercular syphilide quite as rapidly as the larger amounts commonly recommended; and that, too, without the derangement of the stomach which in a not inconsiderable proportion of cases attends the use of this drug in the ordinary doses. As illustrating the efficacy of these small doses I may be allowed to refer very briefly to a few cases:

Mary N., thirty-four years old; half-dollar-sized patch of syphilitic tubercles on the forehead; a much larger patch of like lesions in the left scapular region, extending from the top of the shoulder to the lower angle of the scapula; duration seven months. Potassium iodide was prescribed in two-grain doses three times a day, the small dose being employed for the purpose of preserving the case

*Read before the Philadelphia County Medical Society, March 23, 1898.

for class demonstration a week later. As often happens with ambulant patients, she did not return at the appointed time, but two weeks later; the improvement was then so marked that the case was no longer useful for clinical purposes.

George E.; tubercular syphilide of the palm; duration twelve months. For the same reason as in the preceding case iodide of potassium was given in one-grain doses three times daily. At the end of three weeks the lesions had in large part disappeared.

George S.; tubercular syphilide of the forehead; several months' duration; iodide of potassium in one-grain doses; marked improvement at the end of two weeks.

In each one of these cases the improvement was as rapid and decided as in any in which the usual five- and ten-grain doses had been employed. I would not be understood as advocating these small doses in all cases, since I am well aware that much larger quantities are often necessary to produce the desired result. In the beginning of treatment, however, it is well to try them, since, as Mr. Hutchinson long ago pointed out, it is in the early stages of treatment that these small doses often seem to do quite as well as much larger ones.

In rare cases it will happen that even small quantities of the iodides produce so much disturbance of the stomach that their administration in any effective dose is impossible. In these the drug may be given by enema with quite as good therapeutic results as when given in the usual way. This method of administration, although advised in some text-books, is not, according to my observation, employed as frequently as it deserves to be. The following case well illustrates the efficacy of this method of giving the drug:

Mrs. W. L., who had a number of times been under my care for various manifestations of syphilis, upon one occasion presented herself for the treatment of a gumma upon the forehead. Her stomach had become so intolerant of the iodides that it was no longer possible to give them in effective doses by the mouth, and mercurials seemed to have but little effect besides being also badly borne. Fifteen grains of potassium iodide was given by the rectum twice a day for some weeks with perfectly satisfactory results; and three years later, when there was a marked paralysis of the left half of the tongue, the same method of treatment was pursued with equally favorable effect.

The therapeutic effect of the iodides is usually so promptly and decidedly manifested in the various forms of tertiary syphilis that we are apt to overlook the fact that in some cases, happily rare, no result follows their use in any dose. It is particularly important to remember this when endeavoring, in doubtful cases, to make a diagnosis *ex juvantibus*. In a few instances I have known the diagnosis of syphilis, at first correctly made from the clinical features presented by the cutaneous lesions, rejected because of the failure of treatment by the iodides. The following case is illustrative of this point:

J. W., a young Polish Jewess, had suffered for a considerable period from an ulcerative affection of the nose which had destroyed a large part of that organ. The diagnosis of syphilis having been made, iodide of potassium was given in large and increasing doses until six drachms a day was being given. This treatment having failed absolutely to produce any remedial effect, the patient's attendant began to regard the disease as probably a scrofuloderma. Before giving up the diagnosis of syphilis completely, however, it was suggested that mercurial inunctions be tried; and within six weeks the nose was entirely healed.

In concluding, I wish briefly to call attention to the advantages possessed by mercurial plaster as a local application in the treatment of ulcerating syphilitic lesions. It is much more convenient and cleanly than the various mercurial ointments usually prescribed; and when freshly prepared it may be made to adhere to the affected part without the use of any other dressing.

A SUCCESSFUL MODE OF ADMINISTERING BEECHWOOD CREOSOTE IN PULMONARY TUBERCULOSIS AND OTHER DISEASES.

By Charles Wilson Ingraham, M.D.,
Binghamton, N. Y.

Beechwood creosote is a remedy of wide clinical usefulness, and administered with discretion, in a proper manner, it will be found, contrary to the general impression, uniformly reliable in its effects. In my opinion nine-tenths of the disastrous results which have been attributed to the effects of creosote are the result of administering the drug in a manner incompatible with its digestion and assimilation, or to the use of an inferior quality of the remedy, and in many instances both these factors enter into the case.

While creosote is of undoubted value in

the prevention, relief, and cure of a wide range of organic and functional diseases, both acute and chronic in character, it has attained its greatest usefulness in the treatment of tubercular diseases, particularly tuberculosis of the lungs.

Properly administered in pulmonary tuberculosis, beechwood creosote fulfils in a thorough and reliable manner a diversity of medicinal effects which, directly and indirectly, exercise a powerful control over the disease.

By the use of creosote in pulmonary diseases, in the manner which I shall describe in this article, it has, in my experience, shown itself to exercise a very beneficial influence over the functions of digestion and assimilation, and certainly its systematic use protects the invalid against recurring attacks of indigestion and certain forms of gastritis peculiar to tubercular patients. Further than this, I have found that creosote, by a direct germicidal effect, also protects pulmonary invalids against secondary tubercular invasion of the intestinal tract.

In the treatment of typhoid fever it has been shown that creosote, or its derivative, guaiacol, properly administered, eliminates much of the danger of the typical ulcerative processes in the intestines characteristic of typhoid disease, limiting the superficial extent of these ulcers, and in a similar manner lessening the structural damage, thus reducing the danger of intestinal hemorrhage, intestinal perforation, and peritonitis, the most dangerous complications to which the typhoid invalid is exposed. In a like manner creosote preserves the vitality and maintains the structural integrity of the intestinal mucous membrane, protecting the phthisical invalid against secondary tubercular invasion of the intestines. As will be appreciated, by protecting against secondary tubercular invasion of the intestines creosote eliminates from pulmonary tuberculosis one of the most dangerous secondary complications, for after tubercular disease has gained a footing in the intestines, the prognosis immediately becomes very grave.

It would appear doubtful what the exact views of a certain percentage of practitioners are as to just what therapeutic action is expected of beechwood creosote administered in pulmonary tuberculosis. At one time it was apparently expected that a sufficient amount of creosote could be introduced into the general circulation to secure and maintain a germicidal condition of the tissues and fluids of the body, which in turn would communicate a destructive effect to the tubercle bacilli, destroying these germs *en masse*. But this theory, which for a time prevailed in the face of scientific impossibilities, and to which much of the present unpopularity of creosote is due, has ceased to exist, and creosote is now attaining its just status as a therapeutic agent.

All will admit that creosote has been notoriously abused. Patients treated with the drug after the manner referred to were abused. Diseases treated in the manner referred to were abused.

While the theory existed that it was possible to saturate the blood, the tissues and the fluids of the body with creosote, and secure as a result a germicidal condition of the same, there was a strife among certain members of the profession, particularly in Europe, to determine who should succeed in administering the largest daily quantities of creosote; and so absorbed were practitioners in this mathematical contest that apparently the physiological effect of the drug, administered in these enormous doses, became for the time being a secondary consideration. But happily this state of affairs has ceased to exist, and at the present time no physician thinks of attempting to administer 150 minims of creosote daily, and all understand perfectly that, administered in these enormous doses, the effects are in no way superior to moderate doses, and at the same time the large doses are distinctly harmful. It is the effects of creosote, both direct and indirect, which now receive the earnest attention of the profession, and creosote under these conditions must become recognized in its proper light, and will soon reach the sphere of general usefulness to which it belongs.

No longer does any physician entertain the idea, either in relation to creosote or any other drug, that it is possible to transmit to the general system direct germicidal power, and secure as a result a direct germicidal effect upon the tubercle bacilli sufficient to secure the elimination of these germs from the body. Nature has shown the true manner of eliminating tubercle bacilli from the body, and permanently healing the lesions, and further, what is equally important, protecting the general system against subsequent attacks.

It is through the medium of general constitutional vitality that tubercular disease is permanently cured. General vitality is not restored and maintained through the agency

of powerful germicides. It is the direct product of normal constitutional nutrition and normal tissue oxidation.

Beechwood creosote, by its power to prevent functional disturbances of the organs of digestion and assimilation, by favoring normal action of these organs, by securing and maintaining a healthy appetite, and through these several effects securing uninterrupted digestion and assimilation of nourishment from day to day, brings about a state of general constitutional nutrition, and its product, constitutional vitality.

As to the most effective and least objectionable manner of administering creosote opinions differ, but from my personal experience with various preparations of the drug I believe that the mode of administering creosote that I herewith describe will be found to be a most generally useful and widely applicable method of introducing this remedy into the general system.

There are numerous preparations of creosote, which, as a result of chemical refinement and union with other chemical products, have relieved the drug of its irritating and poisonous character to a greater or less extent, and rendered its use comparatively simple. While these refined products of creosote and chemical compounds containing creosote are of undoubted value, their expense is a factor which interferes with their popular use, and I believe their efficacy does not excel, if indeed it equals, the benefits which may be secured from the crude drug.

I have stated that it is of first importance to secure a superior quality of the drug, and this done, I give my patient one ounce of beechwood creosote and an empty twelve-ounce bottle, and after cautioning him that the remedy is a poison, I direct his attention to the following label upon the creosote bottle: "Put four drops of the creosote in the empty twelve-ounce bottle, and take the same according to the directions to be found on that bottle. The second day put five drops of the creosote in the twelve-ounce bottle, the third day put in six drops, and thereafter continue to increase the amount of creosote one drop each day, until fifteen drops are taken daily. After the dose has reached fifteen drops per day, increase at the rate of one drop every second day, until twenty drops per day are taken. After having reached a daily dosage of twenty drops, increase the dose at the rate of one drop every third day, until twenty-five drops per day are taken. Do not increase beyond twenty-five drops per day without special instructions."

On the empty twelve-ounce bottle I place the following directions: "After putting in the correct number of drops of creosote, according to the directions contained on the creosote bottle, fill this bottle with fresh water each morning, and take the entire contents of the bottle, during the day, in equally divided doses at regular intervals, making at least six or eight doses daily. Shake the bottle thoroughly each time, immediately before using, and be sure that the creosote is thoroughly distributed through the water."

By beginning with minute doses of four drops per day—which, taken in eight doses, makes half a drop of creosote per dose—and by increasing the daily dosage from this minimum amount in the ratio described, there seldom occurs the slightest trouble from its use, and on the contrary many patients declare that the creosote creates an effect very agreeable.

Many have found that creosote taken in this way relieves the throat of irritation directly, promotes expectoration, and relieves a large proportion of the irritating cough characteristic of tuberculosis.

I first described this mode of administering creosote in the *Medical News* of April 13, 1895, and, as in that article, I recommend that Merck's creosote be used, as it is in my opinion the most uniformly reliable of all creosote products. It is advisable to purchase the creosote in original sealed bottles.

I have, by this method, increased the dose to thirty-five minims daily without the slightest objectionable effects, though in my opinion twenty-five minims per day will produce all the therapeutic effects of larger doses.

Much of the benefits of this mode of administering creosote must be attributed to the manner in which it is introduced into the stomach, though the method of preparing a fresh solution each morning, which protects against stale solutions, and assures the highest degree of potency, no doubt has much to do with the uniformly good results.

In case the creosote fails to stimulate the appetite as desired, it is advisable to add to the creosote water either of the following vegetable bitters: One ounce tincture gentian, tincture columbo, tincture quassia, or a small amount of nux vomica may be added when desirable. Also pepsin, pancreatin and other digestive agents may be added.

I am sure that after this method of admin-

istering creosote has been given a careful test, creosote pills, creosote emulsions and alcoholic solutions of creosote will seldom be prescribed.

THE STATISTICAL EVIDENCE IN FAVOR OF THE EXCISION OF CHANCRE AS A MEANS OF PREVENTING SYPHILIS OR LESSENING ITS SEVERITY.

By Francis D. Patterson, M.D.,
Assistant Surgeon in the Genito-Urinary Dispensaries of the University and Polyclinic Hospitals.

Our knowledge of the origin of syphilis is wrapped in obscurity and probably will never be definitely settled. Certain it is, however, that it can be traced back about as far as the history of man; an old Chinese medical manuscript dated 2000 years before Christ contains an accurate description of it.* Nearly all of the earlier Latin, Greek and Arabian writers on medicine make reference to it. In 1492 syphilis swept through Europe as an epidemic, and this may well be termed the "period of confusion," for the reason that they then believed that all venereal lesions were due to one and the same virus. This was the prevailing belief until the year 1852. In this year Bassereau,† to whom should be given the credit for the original suggestion, and Ricord‡ declared that syphilis and chancroid were separate and distinct conditions in nature as well as in origin. Thus the "Dualistic" School came into being. To-day every one recognizes the distinctive differences between chancre and chancroid.

For many years the etiology of syphilis has been the subject of exhaustive bacteriological and clinical research. The discovery of the specific micro-organism has been "announced" more than once, but as yet in no case has syphilis followed the attempted inoculation of a healthy person with these so-called specific germs taken from a culture on artificial media. Though the bacteriological proof of the germ origin of syphilis is still wanting, this disease clinically presents an almost perfect picture of this origin. The chancre is the result of this invasion of germs, and so is only found at the point of inoculation. Its characteristic sclerosis is a proof of the attempt of Nature to prevent as far as possible the further entrance of the germs into the system. Those germs that do enter are carried on to the nearest lymphatic glands, which undergo hypertrophy as the result of their presence.

The malaise, muscular pains and fever which precede the appearance of the secondary phenomenon have been thought to be the result of a toxemia, the toxin being absorbed from the germs which are yet localized at the chancre. The secondary lesions of the skin and mucous membranes are the direct result of the local deposit of the specific virus. Its transmissibility to offspring is but another evidence of its bacterial origin. The acquired, Prozetas and Colles immunities are all evidences of a similar origin. Still further evidence is seen in the fact that the disease presents different forms or types of severity, varying in the number and virulence of the infecting micro-organisms. Thus it may be so benign that the secondary symptoms will never be noted by the patient and he will be unaware of his condition until the development of the tertiary symptoms, which are in these cases very mild. Again, on the other hand, the disease may run a malignant course from the first; the secondary symptoms being very severe, the tertiary coming on in a few months, and often causing the death of the patient. The clinical characteristics of the initial lesion are briefly its induration, its incubation, and its course. This induration is the result of a round-cell infiltration into the connective tissue and the adventitia of the blood-vessels around the infected area. This represents the attempt of Nature to prevent the spread of the germs into the system.

The extent of the initial lesion often bears a direct ratio to the severity of the secondary symptoms, as clinical experience clearly proves. So recognizing that syphilis is probably due to a specific micro-organism, and that infection with this organism produces the chancre, it would seem that the chancre bears the same relation to syphilis that the poisoned wound does to cellulitis. The prompt removal of any localized area of infection is a sound surgical principle. So it would seem that if we admit the bacteriological cause of syphilis the removal of this area of infection would be the proper treatment.

The first excision of a chancre was performed by Corbis in 1693 in the Hospital of Lille in France.* Since then this operation has been performed many times with

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*Otis: Practical Clinical Lessons in Syphilis, etc., U. S., 1883, p. 19.

†Traité des Affections de la peau Symptomatiquê de la Syphilis, Paris, 1852.

‡*L'Union Médicale*, 1850-51, Paris, 1852.

*Quoted from Leloir, Transactions of the Tenth International Congress, Berlin, 1890, B. iv, p. 68.

varying success, as we see from the following statistics:

Reporter.	Total number cases.	Successful.	Unsuccessful.	Not known.
Ehlers[1]	584	137	447	..
Crivelli[2]	454	102	339	13
Munn[3]	1	1	...	..
McGuire[4]	2	...	2	..
Mauriac[5]	1	...	1	..
Humbert[6]	12	1	11	..
Bumstead[7]	15	...	15	..
Zeissl, Mauriac, and Neuman[8]	17	...	17	..
King[9]	7	1	6	..
Leloir[10]	33	10	22	1
Chadzynski[11]	30	7	16	7
Watraszenski[12]	15	1	14	..
Auspitz[13]	23	14	9	..
Hueter[14]	7	2	5	..
Sigmund[15]	39	35	4	..
Langenbeck[16]	2	1	1	..
Kuszlinski[17]	1	1	...	..
Köllicker[18]	8	3	5	..
Rydygier[19]	3	3	...	..
Tolinea[20]	19	8	11	..
Pich[21]	1	1	...	..

Thus out of 1274 cases of excision, 925 were followed by secondaries; in 328 cases no secondaries resulted; in 21 cases the result was not ascertained.

These statistics show that excision does not abort the disease in every case, but clinical notes on many of the above cases prove that it does markedly lessen the severity of the secondary symptoms; in fact, in many of them the only subsequent symptoms were those of general adenopathy and slight cutaneous eruption.

In conclusion I would say:

1. That syphilis is a bacterial disease.

2. That the chancre occurs at the point of infection.

3. The induration of the chancre is the attempt of Nature to limit the disease.

4. That the chancre is an infecting wound and a man has syphilis because he has a chancre, not that he has a chancre because he has syphilis.

5. That the chancre should be treated as any other area of local infection—*i.e.*, by its removal.

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KRYOFINE.

By John H. Curtis, M.D.,

Professor of Therapeutics and Clinical Instructor in Medicine, College of Physicians and Surgeons; Attending Physician Lake Geneva Sanitarium, Chicago, Ill., etc.

Accepting the theory that infectious diseases are combated by an antitoxin developed in the blood of the infected patient, the elevation of bodily temperature in infectious diseases is undoubtedly one of the elements of recovery, for it is part of the means of the development of the antitoxin which is to neutralize the infection; hence reducing the temperature is not always the wisest therapeutic procedure. Nevertheless the temperature may rise to the point where it is of itself dangerous to life, or the cause of a protracted convalescence due to tissue changes produced. Undoubtedly the best and safest means of subjugating this hyperpyrexia is by means of water, as tubbing, the wet pack, or the sponge bath. One of these is always attainable in hospital practise or where intelligent nursing can be procured. The general practitioner, however, is constantly called upon to treat cases where this desirable condition of affairs is out of the question and yet in which he feels the necessity of controlling the temperature. He is then brought face to face with the question of a choice of remedies, and it is in this connection that I wish to call attention to one of the newer synthetical compounds, a coal-tar derivative—kryofine. I am not desirous of stating that this is the best remedy in all cases of fever, as, for instance, where there is great arterial excitement and tension, and where aconite or veratrum viride is unquestionably the best remedy.

This remedy was discovered by Dr. Bischler and brought prominently to the attention of the profession by the publication of the clinical experiences of Professor Eichhorst and Dr. Bresler. It is produced by heating p-phenetidin with methoxyacetic acid to 248°–266° F.; it crystallizes from water in needles with a melting point at 208.4°–210° F. It occurs as white, odorless and tasteless crystals; soluble in 600 parts of cold, 52 parts of

boiling, water; also in alcohol, ether, chloroform, glycerin, and fixed oils. Upon boiling with alcoholic caustic potash solution the greater part is saponified, and with hydrochloric acid it is saponified with less difficulty than most coal-tar derivatives. Under its influence the pulse becomes fuller and stronger, with a disappearance of dicrotism. Abnormal temperature is reduced surely and promptly, in a marked degree, and extending over several hours of time, without rigor or depression, and rarely attended by diaphoresis. Blood-pressure is increased, and according to the observations of Bach the increase of blood-pressure is in harmony with the falling temperature. In the few cases in which there was no reduction of temperature there was an absence of increased blood-pressure. Respiration is not affected. It is eliminated in about six hours, by the kidneys principally, although it does not affect diuresis, and may be found in the urine fifteen minutes after its ingestion. This demonstrates its rapid absorption. The rapid and more or less complete saponification by the stomach and intestinal juices is probably the secret of its power and the reason for its prompt action. It controls neuralgic pain in a marked and sometimes almost magical manner, and in some persons produces a tendency to sleep. I have been using it for about a year and have the records of a large number of cases, a few of the typical ones of which are appended. Perhaps its chief value will be as an analgesic, because of the greater number of cases requiring relief from pain. For the average adult eight grains seems to be the dose giving best results. In only one case (Case IV) were any objectionable collateral symptoms observed. This was in a lobar pneumonia with very high temperature, and ten grains every six hours produced some cyanosis of lips and finger-tips, which, however, disappeared in a few hours.

Case I.—Acute follicular tonsillitis. Miss C., aged six; for twenty-four hours very restless, with headache, backache, hot dry skin, pain upon deglutition. Pulse 120; temperature 103°. Examination of throat showed follicular tonsillitis. Had had several attacks during past three years. Gave three grains kryofine every four hours, with an antiseptic and astringent throat wash. Next morning the temperature was normal, and headache and backache gone, with much improvement in condition of throat. She made an uneventful recovery. This is one of eight or nine similar cases.

Influenza.—During the epidemic of the past winter I have used kryofine in a large number of cases. The uniformity of clinical symptoms renders extended reports of individual cases unnecessary.

Case II.—La grippe (bronchial type). I was called to Mrs. M., aged twenty-eight, at 10 A.M., and found her suffering with intense backache, pain and soreness in the muscles of the limbs, especially the extensor groups, headache, a painful tension in the eyes and forehead, considerable faucial congestion, and a severe bronchial catarrh. Intense weakness; some nausea; anorexia. Pulse 115; temperature 103.2°. Gave eight grains of kryofine at 10 A.M. and 3 P.M.; also a stimulating expectorant. At my next visit, 7 P.M., temperature was 100°, pulse 90. Headache and muscular pains disappeared after first dose. Skin was moist, but there was not excessive diaphoresis. Patient was given these same doses at the same hours the following two days, and the temperature did not go above 99½°. There was continued amelioration of all the subjective symptoms. The intense weakness continued for about a week and yielded only after the appetite and general vitality had been stimulated by strychnine.

Case III.—La grippe (nervous type). Mr. C., aged thirty-eight; headache and backache, with general muscular soreness. Had chronic bronchitis, which was somewhat aggravated; occasional shooting pain through the head, starting from the ears and temporal regions; no appetite; extremely nervous and irritable; melancholy most of the time; insomnia, sleeping but two or three hours per night for the past three nights. Pulse 95; temperature 101°. Five grains kryofine every four hours during the day and ten grains at bedtime relieved the pain and muscle soreness and quieted much of the nervous excitability. Fifteen grains sodium bromide was given with the ten-grain dose at bedtime, and the patient slept twelve hours the first night. Temperature next day did not go above 99°. Stimulated appetite with bitters, and the patient recovered normal condition in a few days.

I have noticed the tendency to sleep in several cases after a ten-grain dose, even when given without the bromide.

In typhoid fever my experience with kryofine has been limited, cold having been the antipyretic agent usually employed. In the cases in which I have used it, however, I have noted that the temperature was reduced

from 2½° to 3½°, without producing any unpleasant symptoms whatever, such as chill, depression, cyanosis, etc. I have noticed that the administration of a dose of six to eight grains about an hour before the time of the highest temperature prevents in a large measure the temperature from going beyond the danger point.

In pneumonia the remedy has been used in several severe cases, with a reduction of temperature of from two to three degrees. In one case only (Case IV) was there any collateral effects. I am of the opinion, however, that, except in occasional cases, the use of agents that reduce temperature by lessening the oxygen-carrying capacity of the blood is not good therapeutics in lobar pneumonia.

CASE IV.—Pneumonia. Male, aged thirty-four. Upon the fourth day of disease temperature was 104° to 104½°. Ten grains kryofine, repeated in four hours, reduced the temperature to 102°. There was some cyanosis of the lips and fingers, which disappeared in a few hours upon increasing his doses of strychnine. Crisis occurred next day, and further antipyretics were not required. Recovery uneventful.

CASE V.—Mrs. G., aged twenty-seven, nervous temperament, was confined November 21, 1897. Easy labor under aseptic precautions. On the ninth day she expected to get up. Upon my advising a few more days in bed she was greatly disappointed and imagined there was something wrong of which I had not informed her. She cried and worried over it, and next morning her temperature was 103°, pulse 118. Careful examination eliminated septic causes. Eight grains kryofine was given, and in the afternoon temperature was normal and nervous system calm.

For the relief of pain kryofine acts very rapidly and surely, the relief often occurring within fifteen minutes. The class of cases in which it acts best are of neuralgic type. Of a record of a large number of cases I append four. In no case have I been disappointed in obtaining relief. Of course pain will return unless the cause be sought for and removed.

CASE VI.—Mrs. H., aged thirty-eight, for twenty years has had frequent attacks of pain over left eye, which she attributes to a fall down stairs in which she struck her forehead on the edge of an iron pan. There is a slight depression in the forehead just to the left of median line. The attacks of pain usually last three days and compel cessation of all household duties. At the beginning of the last three attacks she has taken ten grains of kryofine and repeated the dose once or twice each day, with almost complete relief of pain.

CASE VII.—Miss W., aged twenty-four; telephone operator. For past three months she has suffered almost continuously with severe lancinating pains in right side of head. For past six weeks she has been confined to bed. She has tried numerous remedies and several doctors with scarcely any relief. The last physician finally gave morphine, each dose of which relieved her for an hour or two. I was called the evening of February 10, 1898, and found her complaining of the pain mentioned. Had not slept for over an hour at a time for several weeks. Scalp was excessively tender, especially on the right side. Photophobia; there was quite a severe acute iritis in the right eye. No history or suspicion of syphilis. Pulse 90; temperature 99°. Tongue coated; bowels constipated; poor appetite; rheumatic diathesis suspected. Gave eight grains of kryofine and repeated in four hours. Next morning found patient had slept all night for first time in weeks. Entirely free from pain, but scalp excessively tender. Prescribed a laxative, seven grains soda salicylate every four hours, and atropine and hot applications for the eye. Also directed patient to take kryofine upon the return of pain. This was done upon several occasions for two or three days, and pain has not been severe since the first dose, and has not returned after the third day. Recovery complete.

CASE VIII.—Sciatica. Male, aged twenty-eight; of rheumatic tendencies. Since January 3 he has suffered severely with sciatica of left side. Eight grains kryofine every six hours gave almost complete relief from pain. Patient is taking iodide of potassium, salicylate of sodium and colchicum three times daily and is rapidly recovering.

CASE IX.—Mrs. F., aged thirty-four, six years ago had a severe attack of cerebro-spinal meningitis, leaving her with a divergent strabismus. For the past five years she has had occasional attacks of severe pain in back of head and neck, lasting two or three weeks. During her last attack, which began February 1, 1898, I gave eight grains kryofine morning and night, with complete relief of pain. Put her upon syrup of iodide of iron three times daily. There has been no return of pain as yet.

CASE X.—Neuralgia. Mr. B., aged fifty,

in January, 1898, had la grippe lasting about a week. Since recovery he has had frequent, almost daily, attacks of sharp pain in back part of head, lasting usually about six hours. On March 1 I prescribed ten grains of kryofine to be taken at beginning of these attacks. There was complete relief from the first, and no more attacks after the second day.

From the foregoing cases and a review of many others I conclude that kryofine is: First, a prompt and safe antipyretic, unusually free from unpleasant collateral effects; and second, an analgesic of great power and rapidity of action in all cases of neurotic character.

Kryofine is easy of administration, being tasteless, and is best given in powdered form, dry, upon the tongue. The tablets are not advisable unless first pulverized. Their effects are not so rapid or sure, probably because of the mixture of acacia necessary for their adhesion and compression.

COLOTOMY AND COLOSTOMY.

MOSETIG-MOORHOF (*Wien. Med. Presse*, 1898, No. 3) reviews the accepted methods of forming an artificial anus, and describes a modification in technique which he has found useful in certain cases. The classical inguinal operation—that of Littre—he terms "colostomy;" it consists in bringing the descending colon up to the anterior abdominal wall, to which it is stitched, the opening into the lumen being made at once or after an interval, according to circumstances. The disadvantage of this simple operation is that it does not entirely prevent the entry of feces into the distal part of the bowel, where they stagnate and tend to set up inflammatory troubles. To prevent this Madelung introduced true colotomy, in which the gut is cut completely across, the proximal portion brought out of the wound, and the distal closed by sutures and returned to the abdomen. This method is not entirely satisfactory, as the distal end tends to become distended by the accumulation of its own secretion, which may eventually lead to ulceration. König and Sonnenburg obviated this difficulty by leaving the upper extremity of this portion open and attached to the abdominal wall below the artificial anus; by this means the rectum can if desired be irrigated from above.

Another means of preventing feces from getting into the rectum is by the formation of a spur, first devised by Verneuil, whose original plan has been considerably improved by late surgeons. The disadvantage of both this method and colotomy is that they require a long and freely movable colon and mesocolon; when they are inadvisable or impracticable the author recommends the method he has himself devised. This consists in the ordinary operation of colostomy performed at one sitting, but preceded by partial occlusion of the distal portion of the bowel. A ligature is tied around this, occluding it to about one-half its diameter, and the bulging serous surfaces on either side are sewn together with interrupted stitches. An artificial constriction is thus produced, which prevents the accumulation of feces in the rectum. In attaching the gut to the belly wall the author first sews the serous and muscular coats of the intestine to the parietal peritoneum, and then passes the ordinary sutures through both bowel and abdominal wall. If, however, this would lead to considerable tension, he prefers to attach the intestine to the fascia of the external oblique, leaving the skin free but shutting off the muscular planes from the risk of infection.—*British Medical Journal*, March 12, 1898.

CHLORHYDRATE OF EUCAINE IN RHINOLOGY, LARYNGOLOGY, AND OTOLOGY.

MARTIN (*Rev. Otol.*, February, 1898) states that eucaine, a derivative of cocaine, should be commonly employed as chlorhydrate. This salt is soluble in 15.6 per cent. water and is not decomposed by boiling, thus differing from chlorhydrate of cocaine and allowing the surgeon to be absolutely sure that a sterile solution is employed. Application of saturated solution to the mucous membrane of the throat and nose produced complete anesthesia in four minutes, lasting for six minutes. It is never followed by cold sweats, fainting or excitation so common after the use of cocaine. It often, however, gives a sensation of heat, or excites cough. It does not cause the mucosa to shrink and is not followed by free bleeding.

Cortaz, in discussing this communication, stated that after the employment of eucaine in some twenty cases he returned to cocaine because its effects lasted longer; moreover, the application of eucaine solution was often painful.

The Therapeutic Gazette

EDITED BY
H. A. HARE, M.D.,
GENERAL THERAPEUTICS,
AND
EDWARD MARTIN, M.D.,
SURGICAL AND GENITO-URINARY THERAPEUTICS.

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Leading Articles.

THE ABUSE OF STRYCHNINE AS A STIMULANT.

The papers which have been published in the medical journals during the last few years emphasizing the value of strychnine as a cardiac and respiratory stimulant have been so numerous that many members of the medical profession are wont to regard it as being one of the best remedies which can be utilized to combat failure of either one of these vital functions. While we are thoroughly in accord with the view that strychnine is a powerful stimulant to these functions, we distinctly disagree with the habit which many practitioners have fallen into of employing this drug day after day for considerable periods of time for the purpose of stimulating the heart. Cases are frequently seen by us in which a physician has administered a dose of strychnine for a day or two with the result that there has been marked improvement in the symptoms. This improvement has then ceased to exist; and on the principle that the patient needed a larger dose a larger quantity has been given, until at the end of several weeks the patient has been taking quantities of this nervous stimulant and irritant which at the beginning would have been quite impossible.

As its use is continued, however, the improvement in the symptoms which first took place fails to be maintained, and finally, notwithstanding any dose that can be given, no relief is obtained from its use. In addition to the primary symptoms there is added a condition of excessive nervous irritability which in some patients is not only disagreeable but actually alarming, at least to the patient who has submitted to it, if not to the physician. Particularly is this true where very large doses of strychnine are administered to patients suffering from severe asthenic maladies, as for example in typhoid fever, tuberculosis, or epidemic influenza. In each and every one of these diseases a few doses of nux vomica or strychnine will frequently produce a noticeable improvement in the pulse and in the apparent condition of the nervous system, because strychnine being a powerful stimulant whips up the flagging nervous centers and causes them for the time being to perform their functions with greater activity. If the strychnine is persisted in, and ascending doses are given for a considerable period of time, in addition to the nervous symptoms which we have mentioned there is frequently developed an irritant fever, and particularly is this the case when strychnine is given in full doses during the later stages of typhoid fever or during convalescence from this disease, when, as is well known, anything which disturbs the nervous centers is very apt to result in a rise of temperature. Physicians are wont to watch the patient taking large doses of strychnine in order that this dose may be cut down as soon as twitching of muscles of the forearms or slight stiffness at the nape of the neck is developed, but in our experience, in asthenic patients, long before these symptoms appear there develops mental disquietude and a condition of what might be called "explosive nervousness," which is most unfortunate. This condition we have already called attention to under the name of "strychnine delirium" in an earlier issue of the GAZETTE.

Only recently we have seen several cases which emphasize these points. One was a patient suffering from typhoid fever who did not seem to take and use alcohol very well, although it was evident that his circulation required some stimulation. Strychnine was given to him in moderately large dose, with the result that for a day or two his circulation was improved, but at the end of that

time the poor circulation returned and the patient began having evening rises of temperature of a considerable degree, which induced the physician in attendance to go back to the pure milk diet which had been previously rigorously enforced. As soon as the strychnine was taken away the fever ceased and it became evident that there was no reason for modifying the patient's diet. In another instance a patient, suffering from the depression of influenza during convalescence, received large ascending doses of tincture of nux vomica and became, as he expressed it, "wild with nervousness." In a third instance a student of medicine suffering from asthenopia was ordered, by a well known ophthalmologist, ascending doses of nux vomica, which he took for a period of three weeks, at the end of which time he was taking thirty drops of the tincture three times a day. When he presented himself for treatment he complained of excessive nervousness, as he expressed it, "fearful thoughts," and suffered continually from a sensation that if he was not in a condition of activity something evil would happen to him. These symptoms were entirely removed by stopping the nux vomica and by directing the patient for a few days to take more than his usual quantity of outdoor exercise.

Strychnine or nux vomica is undoubtedly a remedy possessing great powers of stimulation, but we believe that its use should be limited to those cases in which we desire to call upon the nervous system for a sudden effort, as in meeting a crisis in a case of collapse or syncope. It is the lash of the whip which applied violently to a horse about to become "mired" may sting him into such an excess of activity that he raises himself from the quicksand in which he is sinking. So in medicine strychnine may be regarded as a valuable remedy to meet an emergency, but there is nothing which indicates that its continual use as a nervous or circulatory stimulant is wise, and there is much which indicates that such use of it is unwise.

Whatever influence strychnine may exercise upon the circulation is in reality due to its effect upon the nervous system, as it is not a direct cardiac stimulant of any considerable power.

In the discussion of a paper upon Diphtheria, which recently took place in New York, Dr. Winters asserted that in cases of cardiac disturbance in diphtheria he had found that strychnine was practically useless, and he stated that Dr. Welch, of Philadelphia, entertained the same views. Personally, we agree with these gentlemen to the extent indicated by the previous remarks, but in sudden cardiac failure we believe that strychnine is the remedy which affords more hope of relief than any other which we can employ, although, as is well known, sudden cardiac failure in the course of diphtheria is one of the most fatal accidents which we have to combat.

THE VALUE OF HYDRASTIS IN THE TREATMENT OF UTERINE HEMORRHAGE.

Hydrastis has been employed by both regular and irregular practitioners for many years as a remedy for catarrhal conditions of the stomach and intestines, and also for inflammatory conditions of a catarrhal character in the genito-urinary tract of the male rather than of the female. The question whether it exercises any considerable power over the genito-urinary apparatus other than by acting as a tonic to the gastro-intestinal mucous membrane, and thereby improving general nutrition, is one of considerable interest and about which there seems to be a good deal of difference of opinion. As long ago as 1886 an abstract of a paper by Kugelmann appeared in one of the early numbers of the *American Medical Digest* in which he claimed that the use of hydrastis very materially checked the menstrual flow, and it has been suggested that it be employed not only in cases of excessive menstruation, but in those instances of profound anemia where in the opinion of some clinicians moderation or almost complete arrest of the menstrual function is of value as a means of preventing the periodical drain on the system. A few years after Kugelmann's paper had appeared the late Dr. Jackson, of Chicago, reported that he had found this use of hydrastis distinctly valuable, and his evidence may be taken as supporting that of Schatz, of Rostock, who was one of the first to employ hydrastis as a uterine tonic. Dr. W. Reynolds Wilcox has also recorded his experience with the drug in arresting excessive menstruation, and it is worthy of note that Dr. Jacobson considered hydrastis superior to ergot for the purpose named. At most, however, it cannot be expected that the hydrastis will do more than modify the menstrual flow; and Jackson admitted in his paper that by no means in his power, such as tamponing, the use of heat, the use of ergot, or the use of hydrastis,

or of all three together, had he been able to produce artificial suppression of menstruation. That the drug does, however, possess some influence upon menstrual flow and upon hemorrhages from the uterus seems pretty well proven at this time by the gradually accumulating reports which have been placed before us, and while it is by no means a specific, it is one to be considered when the physician comes face to face with a condition which these peculiarities of the remedy will meet.

THE TREATMENT OF SEROUS EXUDATIONS IN THE PLEURAL CAVITY BY THE SALICYLATE OF SODIUM.

A number of years ago particular attention was attracted to this method of treating pleural effusions by an article which was published in the original columns of the THERAPEUTIC GAZETTE. Since that time the writer of this editorial has attempted this method of treatment in a number of cases without obtaining satisfactory results, perhaps because he had more confidence in other measures and resorted to them before the salicylate had an opportunity of doing good. In a recent issue of the *Archives Russes de Pathologie*, vol. iv, 1897, Poliakoff insists very emphatically upon the utility of the salicylate of sodium in the treatment of pleural effusions. He has never seen disagreeable symptoms produced by the administration of the drug under these circumstances, and recommends that it be given in cachet, and immediately after the ingestion of the cachet that the patient take a drink of some alkaline water. Should the dose of the salicylate seem to depress the heart, this may be avoided by the simultaneous use of a little caffeine. After the salicylate has been administered for three or four days its use is suspended for a day or two, and it is then renewed.

It would seem from Poliakoff's studies that the salicylate is particularly useful in chronic apyretic pleurisy. He records six cases in which this treatment was used. In five of these cases the salicylate produced results which were exceedingly satisfactory.

THE ADMINISTRATION OF ANESTHETICS.

Upon this topic, one of cardinal importance to every practitioner of medicine, there have lately appeared in the London *Lancet* three lectures delivered by Frederic Hewitt, based generally on a wide experience as an anesthetist, particularly on 6657 administrations of anesthetics conducted at the London Hospital during the year 1897. On the first of that year Hewitt adopted a system of recording the cases of anesthesia, providing books and special tabular forms so that every instance of the administration of the narcotic in any part of the hospital could be properly noted. It is interesting to observe that out of the total number of cases nearly 3000 were of ether and more than 1000 of nitrous oxide. Chloroform was relied on solely in 677 cases, the A. C. E. mixture in 510, ether followed by chloroform in 293, nitrous oxide and oxygen in 240, and other successions in the majority of the cases unaccounted for. It will be noted that Hewitt has not confined himself to any particular method, but has had a sufficient clinical experience to speak with authority upon nearly all the combinations in common use.

As to chloroform, he states that within a few years it was the anesthetic in routine use, but that confidence in it has been shaken by experience. He particularly warns against the employment of certain recently devised chloroform inhalers. He states that for giving chloroform in the ordinary routine way there is nothing better than Skinner's mask.

Referring to the general effect of chloroform as an anesthetic, Hewitt states that, other things being equal, the stronger the patient the greater the trouble in giving the anesthetic. Deaths from chloroform are the most common in the middle period of life, when men are most vigorous, and more men die than women under this anesthetic. The drug is most lethal during the early stage of its administration, and a very large proportion of the accidents have occurred in connection with minor operations, which are most common in vigorous subjects. The explanation of this is dependent upon the fact that during the transient, very imperfect anesthesia, the muscular system is thrown into a condition of spasm, most marked in the most powerfully developed.

Hill and Barnard state that deaths which take place comparatively early in chloroform administration are usually due primarily to rigidity, struggling, and holding the breath; secondarily to a considerable quantity of the anesthetic being taken in during the succeeding respirations so that the right heart, already overfull, is paralyzed by the chloroform carried directly to it.

Referring to the practical administration of chloroform, Hewitt states that every breath should be heard or felt, that watching the chest or abdomen is a fallacious guide, and that it is of paramount importance to avoid all obstructions to breathing, except a very minor degree recognized by a softly snoring sound. In patients with perfectly free respiratory passages, and often following a phase of respiratory excitement, a condition of tranquil or almost imperceptible breathing may arise quite independently of the overdose of the agent. It indicates partial or moderate anesthesia and is of particular importance, because it is liable to lead to pallor and pulse feebleness, probably because the heart of the chloroformed patient is less able to meet the strain thrown upon it by the occurrence of feeble respiratory action than the heart of the patient under ether. Hence this type of respiration should be avoided, and a moderately snoring respiration when once induced should be maintained by the fairly free use of the agent.

Hewitt states that if snoring has never come on, or is allowed to disappear, it is a good plan to artificially induce it by gently pushing the lower jaw backwards. The results are that the breathing at once increases in force and circulatory depression is averted. In regard to the pulse Hewitt stated he was at a loss to understand the views of the Hyderabad Commission as to the desirability of systematically disregarding its condition until he saw Surgeon-Lieutenant Lawrie administer chloroform in his hospital. He noted that the anesthesia with which he worked was not so profound as that commonly induced in England, the conjunctival reflex being rarely abolished. Under such circumstances watching the pulse is evidently unnecessary; indeed, its indices may be distinctly misleading, as, for instance, its condition just before vomiting, when the feebleness will be construed by the inexperienced anesthetist as showing that the anesthetic should be removed, whereas it should really be pushed. When chloroform is pushed to its full surgical limit the pulse should be carefully watched. Arterial tension falls. A certain degree of pallor and a slow and rather feeble pulse are not necessarily indicative of danger; this condition often precedes respiratory failure and enables the anesthetist to avoid this later and more serious complication.

Hewitt states that there is much to be said in favor of the use of ether and chloroform in succession. The stage of rigidity and excitement, which is the dangerous stage in chloroform, is safely passed over under the stimulant effects of ether. Having secured a proper degree of ether anesthesia, chloroform may be substituted, and there will result a better type of chloroform anesthesia than if this drug had been given from the beginning.

Hewitt has adopted this principle for several years and is able to use chloroform without the occurrence of those untoward symptoms which are bound to occasionally arise when this agent is given from the commencement of the administration. He regards this development in our methods as one of the most important of recent years. It is especially indicated when ether causes cough, embarrassed breathing, or the secretion of much mucus, or when the operation is likely to be a protracted one. Some practise is needed to know when and how to effect the change. The rule to be followed is that there should always be some evidence of the patient having emerged from ether anesthesia when the chloroform is applied. As a rule the conjunctival reflex should be present when the change is effected, and in abdominal operations this change should be made before the operation is begun. Very little chloroform will be required to keep up the proper degree of unconsciousness.

As a result of a very large experience Hewitt uses much less ether and much more chloroform than formerly. He holds that it is as safe to keep up the anesthesia of chloroform as that of ether, and that the risk of subsequent bronchial and pulmonary complications is undoubtedly reduced. He has often anesthetized according to this procedure the patients in the sitting posture, and in not a single instance has he been compelled to place them horizontally.

By his arrangement of cylinders he is able to administer nitrous oxide and oxygen in combination and to keep up the anesthesia for an almost indefinite time. The method is the safest at present known and is devoid of after-effects. The anesthesia is not so deep as that of other agents commonly employed; the muscular system is not so completely relaxed; nor is it possible always to completely abolish reflexes. He is not satisfied with it in severe surgical cases. His best results have been with rather debilitated women or children. Robust and vigorous male adults, especially those of alcoholic habit or excessive smokers, are not good subjects. In one case of breast excision

in which the anesthesia was kept up for thirty-five minutes, a good deal of vomiting followed.

Hewitt's observations concerning the use of nitrous oxide before ether are especially serviceable. This plan of anesthetizing is at times highly inapplicable and unsuccessful. Cases are seen in which there has been a narrow escape from fatal asphyxia. Muscular men of middle life who have become rather obese should never be anesthetized by this method. If it is employed only a small quantity of nitrous oxide should be used, and ether should be gradually added to it. The plan of administering a full dose of nitrous oxide and changing to ether is, however, very useful in children and in women, provided that there are no contra-indications to ether in the patients.

The use of nitrous oxide, ether and chloroform in succession is warmly commended. The initial anesthetic, nitrous oxide, rapidly destroys consciousness and prevents struggling. The intermediate anesthetic, ether, is useful because the circulation will remain unimpaired by the strain imposed upon it should rigidity or suspended breathing arise before deep anesthesia, and because the stimulant effect produced by the ether lasts for a considerable time while chloroform is being given. Chloroform is administered because of the quiet and deep anesthesia which it produces, because of its great convenience, and because of the rarity with which bronchial and pulmonary after-effects are met with after its use. Hewitt states that given no special contraindications there is no better plan of anesthesia than this.

The A. C. E. mixture he commends for middle-aged and powerfully built men, with double chins and thick necks. It is first dropped upon an open Skinner's mask; after a couple of minutes a Rendle's mask with more of the mixture upon it may be substituted; and immediately any rigidity begins to show itself the Rendle's mask may be exchanged for an Ormsby's inhaler charged with ether. By this plan he has been enabled to successfully anesthetize without any difficulty many such subjects.

Of the total number of cases anesthetized by Hewitt there were thirteen which exhibited threatening symptoms. The four factors giving rise to dangerous symptoms are, he states, the anesthetic itself, the state of the patient, the posture of the patient, and the surgical operation.

In the first case which exhibited dangerous symptoms breathing stopped before the patient was thoroughly anesthetized. As the patient was greatly cyanosed ten ounces of blood were drawn, and the breathing immediately commenced. It is very common just before anesthesia is established for the breathing to become temporarily suspended. This is due to acts of swallowing, which are more tardily performed than when consciousness is intact, thus closing the glottis. In addition there may be general muscular spasm. In the vast majority of cases this impaired breathing comes on just before stertor and passes off spontaneously, or may be made to do so by removing the inhaler, rubbing lips with a towel, or pushing the lower jaw forwards. In more obstinate cases, in which the jaws are clenched and the neck muscles are rigidly contracted, it may be necessary to separate the teeth and to pass the finger to the back of the pharynx, when breathing will recommence. Unless this condition is remedied it may pass on to a dangerous or even fatal degree of asphyxia.

The second case presenting dangerous symptoms was one of disease of the heart in which ether was given, full strength by the Clover inhaler, since the patient was well built and of alcoholic habit. This method commonly produces in these patients the most satisfactory anesthesia. In cases of heart disease in which there is evidence of want of compensation, all asphyxia methods should be carefully avoided. Nitrous oxide alone or in conjunction with ether is equally unsuitable. The best anesthetic in such cases is the A. C. E. mixture, or if for any reason ether should be preferred, it should be given by an open inhaler which does not by eliminating oxygen throw extra work upon the right side of the heart.

When the patient is of full habit he naturally becomes purplish or bluish under ether; sometimes he becomes ashy or livid, and this must always be regarded as an indication of danger. Moreover, whenever the lids are only partly closed and the globes of the eyes are turned slightly upwards so that more of the sclerotic than usual is visible, attention should be directed to the patient's general condition. Widely opened lids with the globes fixed in their normal horizontal axes may be met with in the most satisfactory types of anesthesia. Flaccid, nearly closed lids, displaying subjacent sclerotics, are usually indicative of an unsatisfactory condition.

There was one case of severe bronchitis following ether administration, and one inter-

esting case of suspended breathing during recovery after ether administration for putting up of fracture of the femur. So far as the administration of the anesthetic went, there was very little to note beyond that a great deal of mucus was secreted. When the anesthetic was discontinued, the patient became rigid, with clenched jaws, cyanotic, obstructed breathing incidental to commencing vomiting. Prying open the jaws was performed, the tongue forceps applied, and the finger passed to the back of the throat. Respiration was not started by any of these measures. Tracheotomy was then performed, and directly this had been done a great deal of mucus escaped from the tube. Hewitt states that patients should be turned on the side immediately the anesthetic is discontinued. By this procedure mucus will tend to flow out of the mouth, the tongue will gravitate into the cheek, and stertor will cease.

Of the 6657 cases of anesthesia there were only three in which the anesthetic could in any way be held responsible for the fatal issue, and only one in which the anesthetic was the sole factor.

In a case of appendicitis following typhoid fever the patient apparently died of bronchopneumonia thirty-four hours after operation. Hewitt holds that the chances of pulmonary complications would have been less if chloroform or the A. C. E. mixture had been given, and that from this experience it is fair to infer that the unusual cyanosis met with during the administration might with advantage have been taken to indicate that a change from ether to chloroform should have been effected.

The immediately fatal case occurred under chloroform and during the period of preliminary excitement.

As to the gastric after-effects of anesthetics other than nitrous oxide, in 275 cases in which this was noticed there were none in 109, slight in 109, moderately bad in 35, and severe in 22. Calculating on a percentage basis, it is noted that 36 per cent. of the ether cases had no after-effects; while 32 per cent. of the ether cases followed by chloroform were similarly fortunate; 7.2 per cent. exhibited severe after-effects after ether. Patients are more apt to suffer from slight after-effects when ether has been used, but the chances of protracted vomiting are greater when chloroform has been administered. There can be no doubt that abstinence from food for at least four hours before operation should be enforced. Clear soup or beef tea is the best form of nourishment before operation. The practise of giving a patient beef tea three hours before operation is open to objection. The stomach should not only be emptied, but digestion should have been finished for some little time.

A tabulation shows that the severity of the after-effects is markedly influenced by the continuance of the anesthetization. As to the prevention of the gastric after-effects, in addition to previous regulation of the diet it is essential that the bowels should be thoroughly evacuated; this is accomplished by administering a purgative on the night before the operation and an enema on the morning itself. The patient should be rendered anesthetic as rapidly as possible; a deep anesthesia, free from swallowing movements, should be maintained. The head should be kept to the side for the escape of mucus and saliva, and the mouth should be frequently wiped out. The patient when in bed should be turned well upon his side and the bed should not be moved, and the room should be kept quiet. No nourishment should be given until the patient himself asks for it.

If nausea, retching or vomiting be present the patient should be given at intervals two or three ounces of very hot water to drink. The taste of ether is best overcome by moistening the lips with lemon juice. If there appears to be a neurotic element present, enemata of twenty grains of bromide of potassium in two ounces of water will often answer well. The inhalation of vinegar from a towel is very useful in arresting vomiting, as is also the application of mustard leaf to the epigastrium.

This communication of Hewitt's is extremely important, as it is founded upon the careful, minute, detailed observation of an accomplished and widely experienced anesthetist. The diversity of his methods and the multiplicity of his apparatus do not commend themselves to an American surgeon. One important lesson, however, taught by his paper is that there are merits in ether, chloroform, and nitrous oxide; that each has its appropriate place in surgery; and that in place of the slavish adherence to routine it would be wise to judiciously select in accordance with the condition and temperament of the patient. His practical observations upon certain difficulties that arise during anesthetization, his strictures concerning the employment of chloroform and nitrous oxide in the robust, are useful. His reasons for substituting ether by chloroform will scarcely be

conclusive to American surgeons, save in exceptional cases—*i.e.*, those with a tendency toward pulmonary congestion. Under such circumstances the following of Hewitt's plan may well be commended. It would perhaps have been well to have called attention to Laborde's method of traction upon the tongue in restoring respiration during the late period of anesthesia and flagellating the epigastrium by means of wet towels.

The reversed abdominal motion—*i.e.*, retraction of the epigastrium and abdomen—upon expiration in diaphragmatic paralysis is frequently observed when the anesthetic has been pushed too far. Hare and Martin showed in experiments that the diaphragmatic muscle is usually the first to be paralyzed, and have frequently called attention to the importance of carefully watching the abdomen to see that the diaphragm is properly performing its function and is not being sucked up into the chest with each inspiration, thus preventing the lungs from properly expanding. The attention which Hewitt calls to the condition of the eye is not in accordance with that held by the American surgeons; but it must be remembered that the Clover apparatus is not commonly employed by American anesthetists. It is very common to see the eyeballs turn up and the lids half open. We have learned to regard wide dilatation of the pupil as the only important ocular symptom which is likely to indicate grave danger. In the great majority of anesthetized patients the eye rolls up as it does in sleep.

The advice given to push the jaw backwards for the purpose of inducing slight stertor seems to be unwise. With experience the anesthetist soon learns to recognize the quiet, absolutely free breathing which is an index of the perfect anesthesia. Pressing backward of the jaw always obstructs the respiration to a greater or less degree, and the only manipulation which should be practised upon it is to lift it forward and to extend the head for the purpose of rendering the air-passages freer.

A great disadvantage of chloroform to which Hewitt has not called attention is its lethal effect upon the kidneys. There is some superstition to the effect that ether is to be avoided when a patient who requires anesthesia has any form of nephritis. All the observations of recent years have proven apparently beyond contravention the falsity of this doctrine. In Hewitt's large number of cases there is not a single death which occurred during the administration of ether, although this anesthetic was given in a greater number of the sum total of his cases. Of the very few who took chloroform one died absolutely from the anesthesia, since the fatality occurred in the early stages of its administration.

Reports on Therapeutic Progress

PNEUMONIA TREATED BY HEAT OVER THE SPINE AND BY THE INHALATION OF PURE OXYGEN.

The *Boston Medical and Surgical Journal* of December 2, 1897, contains an article on pneumonia by B. O. KINNEAR, of New York. He tells us that the treatment of pneumonia in the congestive stage, and that of red hepatization, by heat over the dorsal sympathetic ganglia is but little known as yet to the profession, though it has been occasionally brought to their notice during the past thirty years. It is Kinnear's object to demonstrate what heat so used will accomplish in this disease in its early stages, and to give evidence of the soothing, supporting and life-restoring power of properly combined and prepared oxygen.

It appears to the writer that the most efficient treatment in the early stage of the disease is to contract the arterioles in the inflamed area, as well as throughout the upper body, because from post-mortem appearances we know that in cases of pneumonia where much of the lung is involved there is also found effusion upon the pleural surface, pericarditis, and even the upper part of the peritoneum may be found covered with lymph; while delirium and cerebral meningitis may be present.

How then may we successfully accomplish this much to be desired end?

Kinnear has found that very rapid and satisfactory results can be obtained by applying the spinal hot-water bag, or its equivalent in heat and moisture, over the dorsal sympathetic ganglia. By the application of heat over these knots of nervous tissue in this region he has, he states, over and over again, during the past sixteen years, subdued nearly all the acute forms of inflammation affecting the respiratory apparatus.

A double-columned hot-water bag may be applied, or two rows of flannel may be used (being first dipped in water no hotter than 120° F.) instead of the hot-water bag; the space of one inch should be left between the

rolls, so that the heat will not cover the spinal vertebræ direct. One yard of flannel, eight inches wide, rolled evenly from each end toward the center until the space of one inch remains between the rolls, may then be sewed so that they will not unroll. They will answer if the hot-water bag is not at hand, and may be made the means of saving many lives in the earlier stages of all inflammations of the respiratory passages. They should be wrung out after dipping in water at 120° F., and then quickly applied between the shoulders, covered with a thick dry towel, and the patient told to press against them. The application when flannel is used should be changed every twenty minutes, until decided relief is obtained to the breathing, the pain, the flush of the face, and the bounding pulse. It may then be removed until there are signs of a renewal of the symptoms, when it can be reapplied, and will be found at once to check them. The hot-water bag used in this way in active congestions and early inflammations will always reduce the temperature and the pulse, and excite the sweat glands to action, thus giving relief to the symptoms; evidencing also by auscultation a speedy progress toward recovery, and therefore a return to normal of the caliber of the pulmonary capillaries in the stage of congestion—and in the condition of red hepatization, a rapid resolution or reabsorption of the inflammatory exudation.

In bronchitis, in pneumonia alone or when accompanied by pleurisy, in acute laryngitis, and in the frequent pleurisy of phthisis, the author has quickly controlled the inflammation by this means.

In some people Kinnear has found great prostration to follow the rapid reversal of the inflammatory process in respiratory diseases; and he believes this to be due to some extent to the shock to the nervous system, both of the attack and also that caused by the sudden restorative change. In the past he had often wished that he possessed some agent which would improve nutrition, stimulate the nerve centers, and aid restoration of normal inspiration by rapid oxidation of the blood and the tissues, while conquering the inflammation by the hot-water bag.

Such an agent Kinnear thinks has been found in the inhalation of pure oxygen properly diluted by combination with a gas of lighter specific gravity than oxygen. Pure oxygen when used alone is too dense in its specific gravity to be absorbed by the capillaries, being also too powerful an oxidizing agent, and very irritating to the mucous membranes, especially in subacute forms of inflammation.

The gas which has been found best suited to dilute the oxygen is nitrous monoxide, and the formula used by the London Oxygen Hospital is considered the best by all leading writers upon oxygen. It is pure oxygen two parts, one part of nitrous monoxide, and a small equivalent of ozone added to keep the oxygen fresh. This employment of ozone does away with any objection which might be made to gas compressed in cylinders, as it prevents rapid deterioration.

Kinnear cannot speak too emphatically upon the proper formula and the quantity of the gas, because only by strict attention to both can we ameliorate and subdue diseased conditions.

Oxygen as a therapeutic agent is but little understood by the medical profession; and it is a very serious error to suppose that the ordinary commercial oxygen manufactured by calcium-light makers is a proper agent to be employed for therapeutic purposes. It is often saturated with chlorine and other deleterious gases, which, being exceedingly poisonous, are most injurious to the patient. The physician should therefore obtain the very best quality.

THIOSINAMINE.

In the *New York Medical Journal* of November 6, 1897, Dr. TOUSEY makes a further report on the therapeutic uses of thiosinamine and calls attention to his article published in the *New York Medical Journal* of May 2, 1896, in which he stated that he had begun his study and use of this drug in 1894, and that, so far as published, his were the first cases of keloid treated with it. The writer then stated that while the number of cases was small the results had been positive.

He writes further upon the subject in order to answer a number of inquiries, and also to record the ultimate results in the cases already described. In addition thereto, a number of later cases in his own practise and that of others will be reported.

The drug itself is derived from oil of mustard seed, and belongs to the same chemical group as urea:

$$\text{Urea is } CO \begin{cases} NH_2 \\ NH_2 \end{cases}$$

$$\text{Thiosinamine is } CS \begin{cases} NHC_3H_5 \\ NH_2 \end{cases}$$

It is crystalline and does not keep well in an

aqueous solution. It is amply described in all modern works on chemistry and in Merck's price list of drugs.

Thiosinamine first appears in medical literature as one of the things experimented with in the hope of finding a cure for tuberculosis. In this it proved an addition to the long list of failures. It was studied by Hebra, Van Hoorn, Richter and Zedziak as to its influence upon tuberculous processes, its bacteriology, and its physiological action, notably upon the blood. They also tested its therapeutic action in several of the conditions mentioned below.

These investigations showed it to have no curative influence upon tuberculous processes; not to be even a feeble germicide, but to have two properties from which Tousey made the deduction that in this drug we possessed the long-sought means of cure for keloid. One of the observations which led to this discovery of the writer's was that its use was followed by the softening and relaxation of the deforming cicatrices left by lupus and the consequent cure of extreme cases of ectropion and the like. Another was that its hypodermic administration produced an immediate disintegration and elimination of white blood-cells, so that the number present in the blood fell to one-third the normal. This was followed by a leucocytosis, or increase beyond the normal, persisting for forty-eight hours.

The answer to the question, How does the writer explain its effect upon keloid? is this: This tremendous cellular activity in the circulating medium calls forth a coordinate activity in the leucocytes and fixed connective tissue cells throughout the organism, and an increased removal of effete or lowly organized material by way of the blood and lymph channels. This view is strengthened by the recorded observations of diuretic action when beginning its use. Accurate observations made upon ward patients in German hospitals showed it to be an active diuretic and to hasten the absorption of fluid effusions. The first of these effects has also been observed by a correspondent of the writer's in Philadelphia. It should be stated here that where he has quoted from private communications he has withheld names and details, so as to enable each gentleman to report his own results when he shall have formed his final opinion of this method of treatment.

For nearly a year past Tousey has been using and now recommends a hypodermic solution made by dissolving ten parts of thiosinamine in one hundred parts of a sterilized mixture of water and glycerin. This solution keeps well and is non-irritant. He injects twelve or fifteen minims, as a full dose, into the muscles, triceps, or glutei, every three days. Others have used three grains of thiosinamine as a usual dose, and in a great many cases this is well borne. The writer thinks the dose should be gradually determined for each individual case. In the author's experience doses much larger than fifteen minims of the solution caused a slight feeling of nausea after each injection.

Tousey is in a position now, after a wider experience with it, to state most positively that the use of this drug is free from deleterious effects of any kind. He realizes that before it can be established as a successful treatment for keloid and the like, equally favorable therapeutic effects must be obtained by many other observers. These corroborative observations are being reported to him constantly.

Too large or too frequent doses might cause slight nausea, and too long continued use without intermission might produce headache and malaise; but neither of these has occurred in the writer's cases. Carefully conducted, the treatment produces a general tonic effect, and his cases of keloid have not lost a day from work or business during the treatment.

The author's advice has been asked about its use in the treatment of corneal opacities. He states that he would inject twelve minims of the solution into the triceps every three days and continue with the same dose until at least twenty-seven injections had been given. Marked improvement in vision may be promised, but the improvement in appearance is not so striking. In every case, therefore, this treatment should be used for definite and serious impairment of vision, and the acuteness of vision should be carefully measured and recorded before and after treatment. An observation of the writer's own, recorded in this paper, will show his reason for believing that any benefit obtained in the absorption of cicatricial tissue or the like by this drug is a permanent one. As mentioned in his first article, a number of cases of corneal opacity have been successfully treated by Hebra and by Richter. In a case reported by the former the patient before treatment could hardly avoid collisions with people on the street, and afterward could read the time by the high city hall clock in Vienna. Hebra states that a large number of cases of

mild impairment of vision from corneal opacity have been entirely cured by treatment with thiosinamine at the Rudolf-Spital in Vienna.

A recent case communicated by an oculist of Philadelphia showed very marked improvement in vision and corroborated earlier observations as to diuresis and as to increase in appetite and weight during treatment. There occurred after one injection slight temporary anesthesia of a portion of the forearm.

The possibility of the last mentioned occurrence was mentioned in the writer's first article, and was there attributed to a mechanical injury to a cutaneous branch of the musculo-spiral nerve. Similar cases are on record where ether or antipyrin has been given by the hypodermic method.

In this connection should be recorded an unfortunate case in the hands of one of the writer's correspondents: The patient suffered from deforming syphilitic cicatrices of the neck and face. The doctor injected thiosinamine into the triceps, using the strictest antiseptic precautions. Shortly afterward the arm became swollen and painful, and death ultimately ensued from septicemia.

Such a case brings forcibly to mind the necessity for eternal vigilance in the employment of the hypodermic method of medication, but is so rare as not to lead any one to abandon its use where it seems to be the best means of introducing a drug into the system.

In a recent case of the writer's he administered thiosinamine by the mouth. Three grains was given in capsule every day for eight weeks without any disturbance of any sort, and with the therapeutic effect sought for. This is the only case in which he has given it by the mouth, but he has seen no reason why this, the simplest, may not prove to be the best method of administering the drug. Two of his correspondents have used an aqueous solution hypodermically, and report less pain and equally successful results.

The use of thiosinamine for corneal opacity should be limited to cases in which there is no danger of fanning a latent inflammatory process into an active one. In the case of the eye, such an effect would necessarily be detrimental; but elsewhere it is sometimes of benefit. The author cites a case mentioned in the first article: the use of this drug in an old latent case of osteomyelitis of the tibia started up suppuration, resulting in the extrusion of an old sequestrum and definite healing.

One of the writer's correspondents reports the cure or clearing up of a cataract under thiosinamine treatment. It certainly was innocuous; and if this observation should be verified by other physicians in other cases of cataract, it will indeed be a most wonderful thing.

For keloid, cicatricial contractures, and hypertrophied scars, further experience in its use has proved its utility.

In the author's first published case of keloid the patient remains now, three years after treatment, entirely free from recurrence, and shows only a broad, flat, flexible cicatrix.

[See the THERAPEUTIC GAZETTE for July, 1896, and page 403 for 1897.—ED.]

ALCOHOLIC STIMULATION IN CONTINUED FEVERS.

What are the indications for the use of alcoholic stimulants in such febrile diseases as typhoid, grippe, pneumonia or septicemia? This is the question put and answered by CABOT in the *Boston Medical and Surgical Journal* of December 2, 1897.

There are many who regard the existence of one of these febrile diseases as of itself a sufficient reason for giving alcoholic stimulants. For example, in Wood and Fitz's "Practice of Medicine" it is laid down that "alcohol in some form should be used in every case of typhoid from the beginning, unless there be some very strong reason for refusing it, as where there is a distinct heredity towards drunkenness." Many who might not agree to this course in typhoid believe in using alcohol in every case of pneumonia, whatever its nature, and in all severe septic and pyemic processes the author supposes that the majority of good practitioners in this vicinity would prescribe alcohol as a matter of routine. From this point of view, the diagnosis once established, the exhibition of alcoholic stimulants is a matter of course.

On the other hand, there are in many modern text-books signs of a reaction against this wholesale and routine use of stimulants. For instance, W. Gilman Thompson, in his new work on dietetics, says: "I am inclined to prescribe very much less alcohol than formerly;" and again: "The routine employment of alcohol in typhoid is to be deplored." Pepper, in the edition of 1894 of the "American Text-book of the Theory and Practice of Medicine," says: "Until recently the symptoms of alcoholic overaction (in typhoid)

were often mistaken for advancing debility, and regarded as an indication for still more free stimulation."

Of modern authorities Strümpel is the only one who distinctly disbelieves in the use of alcohol in any of the diseases above mentioned. Even in pneumonia he does not give alcohol except to patients who have become habituated to it before their illness. "We could never satisfy ourselves," he says, "of the often praised action of alcohol on the heart."

Between these two extremes—the routine use, and the absolute avoidance of alcohol in continued fevers—falls the practise of most of us. The usual opinion is that there are certain indications for the use of alcohol in such cases. What we want to bring out in this paper is that many of us are not as clear or as consistent as we ought to be as to just what we expect to gain by stimulation, and as to the reasons for its use in any particular case.

For example, Cabot thinks there is a fairly wide-spread impression among us that alcohol is itself directly inimical to the toxemia which forms the chief danger in acute infections.

Does this impression rest on any satisfactory experimental basis? The writer has never heard of any such. If it could be shown that the use of alcohol increases the germicidal power of the blood, or of the power of the kidney to excrete toxins or precipitate them in the stomach, we should have a satisfactory reason for giving stimulants, as, for instance, most surgeons now give them in septic cases. There would then be good reason for giving stimulants even if they did not improve the heart's action, the digestion, or any other function of the organism. But, so far as known, there is no experimental evidence that the ingestion of alcohol does increase the antitoxic or bactericidal power of the blood, and there is a certain amount of evidence that so far from increasing the ability of the kidneys to excrete toxic products, alcohol has just the reverse effect. We know that alcohol precipitates snake poison in the stomach where it is excreted, but the writer is not aware of such evidence as regards other toxins. He has heard surgeons and others express a belief that it is no harm to stimulate a septic patient even to the point of making him drunk. As to the wisdom of this course the following experiments are relevant:

1. In the *Comptes de la Société de Biologie* for 1895 (p. 51), Wurtz and Hudels report experiments on fourteen rabbits and seven guinea-pigs, which were given enough alcohol to make them drunk, and then killed, and their blood examined for bacteria. Over one-half the cases showed the presence in their blood of streptococci, colon bacilli, proteus vulgaris, and various anaerobic organisms.

The control animals, to whom the same dose of alcohol had been given, recovered from its effects, showing that the inroad of bacteria in the autopsied cases was not due to any moribund condition from a lethal dose. They were simply drunk and not dangerously poisoned.

If large quantities of alcohol make bacteria enter the blood in animals, why may it not have a similar effect in sick men? Are we likely, then, to benefit a septic patient by making him drunk?

2. Again, take the question of the excretion of toxins by the kidney. It is well known that in most acute infectious diseases, where the patient is doing well, the urinary toxicity is greatly increased, and this is taken to show that the kidneys are aiding in the fight against the disease by excreting the poisons produced by the infectious agent. Kellogg found that the use of alcohol, so far from increasing the urinary toxicity, greatly decreased it. The writer does not vouch for these results, but offers them for what they are worth. There is no doubt that cold bathing in typhoid does increase the urinary toxicity, as has been shown by Roque and Weill.

Apart from the question of the action of alcohol as an antitoxic or bactericidal agent, the following indications for using it in continued fevers are stated in most text-books:

1. Persons long addicted to its use should not be deprived of it in febrile diseases. On this point there seems to be no disagreement.

2. It may be the only form of food which the patient can and will take.

3. Sudden collapse or great prostration from any cause is generally agreed to call for stimulation.

As to these three indications the writer thinks most physicians would agree. But the great majority of writers go further and recommend that:

4. Any serious complication, such as hemorrhage or perforation in typhoid, severe nervous symptoms like delirium—in fact, anything that shows an especially severe

case—should be considered an indication for stimulation.

5. Persons over forty years of age and persons of feeble constitution are believed by most writers to need stimulation in case they catch any severe infectious disease, like typhoid or pneumonia.

On the other hand, Ringer's views on the use of alcoholic stimulants are copied into many text-books, and they conflict with the belief that a severe or complicated case or one occurring in a feeble person should always be treated with stimulants. Ringer says in substance: "If after the use of alcohol we see the pulse become slower, the skin and tongue moister, sleep better, nervous symptoms less marked, breathing less hurried, food better taken—the alcohol is doing good. Not otherwise."

Now, if this be true, we cannot say that severe or debilitated cases need stimulation, but only that they may need it, or that they need it in case it turns out to do them good. Now this is where the writer thinks many of us err. We do not watch the action of alcohol as we do that of other drugs which may do harm. We often give it as we might give malt, and not as we give digitalis or calomel. When we give a diaphoretic or a purgative, we look for its definite action; if we do not get it after a sufficient dose, we do not continue the drug. But the writer has repeatedly seen alcohol given whether any good effects appeared or not, with a general idea that it must be doing good since it is a food and a stimulant. But in many cases it does not act as a stimulant—in any dose; does not slow the pulse, moisten the tongue, or decrease restlessness and delirium; and other food is so well taken that it is not needed as a food,—yet we go on using it under a vague impression that it helps the patient to fight his disease, makes him feel better perhaps, and at any rate cannot do any harm. Cabot enters a protest against such treatment, which he sees constantly administered in our hospitals and elsewhere. He believes, with Pepper, that the symptoms of alcoholic poisoning are "often mistaken for advancing debility and regarded as an indication for still more free stimulation."

There is a pernicious idea which has been repeatedly advanced by prominent physicians, that if the smell of alcohol is not present on the breath the amount of alcohol given must be doing good. But alcohol is not excreted solely by the lungs, and its ill effects can be shown, as Ringer and others have pointed out, by other symptoms besides the smell of the breath.

It seems to the writer that what is most needed at the present time in order to improve our therapeutic use of alcohol is more experimental evidence on two points: (1) The effects of alcohol on the toxicity of the urine, and on the antitoxic and bactericidal power of the blood; (2) the effects of treating acute infectious diseases without alcohol.

The writer has often thought that therapeutic progress is seriously hindered by the fact that every case is given the best treatment known. He accounts for the long persistence of the bleeding treatment by supposing that since every patient was given the best treatment known—namely, bleeding—physicians had no chance to see how the disease would do without the treatment. Similarly, at the present day, so few of us have ever seen a severe case of sepsis or pneumonia treated without alcohol that it is very possible that some of us may attribute to the disease (as Pepper says) symptoms really due to the treatment. The writer has often been struck with the close resemblance between delirium tremens and some of the symptoms of severe febrile cases treated with the best known alcoholic stimulation.

In 1864 A. L. Loomis treated 600 cases of typhus fever without alcoholic stimulants as an experiment. His mortality record was six per cent.; the previous record in the same epidemic in cases treated with stimulants was twenty-two per cent.

N. S. Davis claims to have treated 1000 cases of typhoid fever without alcoholic stimulation, with a mortality of five per cent.

Kellogg, of Battle Creek, states that he has treated eighty-two cases of pneumonia without alcohol, with a mortality of 4.9 per cent.

The author states that he is aware that statistics can lie, and he is not prepared to say, as Strümpel does, that we should give up alcoholic stimulation in fevers; but he does think that we need a broader experimental basis for our practise of and use of stimulants simply because the case appears to be very severe.

In conclusion he believes that alcohol, like other drugs, should be given to accomplish a definite therapeutic result, and if no signs of that result appear the drug should be withdrawn. Experimental evidence is much needed: (*a*) As to the effects of alcohol on the toxicity of the urine and the bactericidal power of the blood; (*b*) as to the result of treating acute febrile diseases without alcohol.

POTASSIUM CHLORATE POISONING.

P. JACOB (*Berliner Klinische Wochenschrift*, July 5, 1897) records a fatal case. A patient aged thirty-nine was admitted almost comatose, thirty hours after taking about twenty-five grammes of this drug. The face, ears, fingers and toes were blue. There was much dyspnea, and the pulse was thready. Camphor injections were given, and the stomach washed out with water to which sodium bicarbonate had been added. Venesection was performed on two occasions, and 1000 cubic centimeters normal saline solution was infused. Some considerable improvement was noted on the third day. Fifty cubic centimeters urine of a brown-red color was drawn off, and was found to contain both albumen and blood. From the time of admission a marked methemoglobinuria existed, but after the second day a distinct hemoglobinuria. Six days after taking the poison the patient died suddenly and unexpectedly. Only an incomplete necropsy could be made fifty hours after death. The spleen was enlarged, the lungs deeply engorged with blood, and the kidneys swollen. The changes in the blood were interesting. There was a very marked leucocytosis at first. The red cells were paler than usual, and showed marked degenerative changes. The leucocytosis gradually diminished, so that on the day of death the leucocytes did not exceed the normal, but the changes in the red cells gradually increased, so that eventually hardly a normally colored red cell was to be seen. The red cells which escaped the destructive changes nearly all showed poikilocytosis. The author's observations thus agree with those of Riess and Krönig. The hyperleucocytosis is a reactive change. The author would go so far as to say that the use of potassium chlorate, even as a gargle, should be entirely given up and forbidden. Even in small doses it is a severe blood poison, and may produce a hemorrhagic nephritis.—*British Medical Journal*, Nov. 20, 1897.

CHLOROFORM AND ETHER.

In the *Boston Medical and Surgical Journal* of December 23, 1897, Dr. KEEFE contributes an able, practical paper on these anesthetics. He thinks a careful review of this subject would enable us to draw the following conclusions:

1. Statistics are at present of little or no value in deciding as to the relative danger of chloroform and ether, because, as the author has shown in a previous paper, the deaths under both bear a lower ratio to the inhalations than the sudden deaths in those who had not taken an anesthetic bear to the population.

2. Ether is a safer anesthetic in proportion as it is weaker, bearing a relation to chloroform of about one to five. The danger of chloroform is not so much inherent to it *per se* as to its relative greater strength and the greater care and experience required in its administration. He states that he would trust almost any physician to give ether, but not one in twenty to administer chloroform; just as any child can handle a toy engine, but not every man can handle a steam locomotive.

3. The difficulties with both chloroform and ether in the presoporous stages are, in nearly all cases, due to respiratory spasm, and the consequent heightened arterial tension and venous congestion. This is very likely to be unduly prominent in the brain on account of recumbency, and the few muscular fibers in its vessels in comparison to the general circulatory system. For this reason it is neither so well able to resist the onset by contracting its arteries nor to empty itself.

4. In the post-stertorous stage, after long application, the death is most likely to be caused by anemia and cardiac paralysis.

5. The best medicine for the first kind of interference is amyl nitrite, belladonna, and strychnine; and for the second, digitalis and strychnine, supplemented by electricity and all the other movements recommended by Dr. Hill.

6. Were the writer asked for the greatest advantages ether has over chloroform he would say: The anesthesia of ether is loud and lifelike, hence any accident or interference is noticeable on the instant; whereas chloroform produces so quiet a sleep that the patient seems on the border-land of the grave, and there is not so distinct a warning of accident until too late; consequently it requires a degree of vigilance and attention that few possess. Moreover, the administrator, if conscientious, feels that he assumes a greater responsibility than the operator.

7. Chloroform is a more satisfactory anesthetic for short operations, where the sopor need not be renewed or continued; for obstetrics, where the anesthesia need not be complete; and for patients with lung or kidney disease, and children.

8. Ether is pleasanter and safer (for the vast majority of physicians) to continue the

anesthetic state after having been induced by chloroform.

9. He does not believe there is any well marked difference in the manner of death under ether or chloroform; the stage of the anesthesia has more to do with it than the agent.

THE DIAGNOSIS AND TREATMENT OF HEMATEMESIS.

Professor ROBIN, of Paris, in an article published in the *Medical Press and Circular* of December 22, 1897, discusses this interesting and important subject. He tells us that in simple ulcer of the stomach, which might well be called ulcus acidum, the ulceration, and therefore the hematemesis also, has been preceded by a period of gastric hypersthenia. The preventive treatment of hematemesis from this cause will, therefore, consist first of all in the treatment of the gastric hypersthenia. Next to this, we must deal with the ulcer itself. The prehemorrhagic period is generally of sufficient duration to give one time for intervention. According to Cruveilhier's law, all solid food must be given up, and the absolute milk diet must constitute the basis of the treatment; milk in such cases is not only a harmless article of food, but also helps in the cure, tending to neutralize the acids and exerting also a sedative action on the hydrochloric acid secretion. The guiding rules of this milk diet are simple enough. The patient should take at least three quarts of milk a day, in five portions, at regular intervals, so as not to overstimulate the digestive functions. The milk should be taken cold, and preferably unboiled (if it be possible to procure a perfectly healthy milk); it should be mixed with a little lime water. This milk diet ought to be continued for six months at least, even when no further morbid symptoms supervene.

Several objections have been urged against the milk diet. It has been alleged to dilate the stomach, already rendered prone to dilate by the disease itself, but true dilatation in such cases is quite exceptional, and is more apparent than real; there is, in fact, only some distention due to spasm of the pylorus, this giving rise, by reflex action, to acid hypersecretion. The milk diet is in such cases the treatment of election; it does not increase the distention of the stomach, but tends to diminish it.

Von Leube recommends a different mode of treatment. The first indication, in his opinion, is to wash out the stomach, in order to free it entirely from all fermenting matter, which is apt to exert a deleterious influence on the future evolution of the ulcer; next he injects an alkaline solution, in order to neutralize the contents of the stomach; lastly, he pours in an emulsion of bismuth. The bismuth is deposited on the walls of the stomach, constituting a regular dressing of the ulcer, which thus tends to heal up. Von Leube's method is certainly rational and may be worth a trial. The writer, however, objects to the introduction of a tube into an ulcerated stomach, this being an essentially risky and dangerous maneuver, apt to be followed by severe hemorrhage. This assertion is not theoretical. Cornillon and Duguet have published some well known cases in which the introduction of the tube was followed by fatal hemorrhage, and it is, after all, quite as easy to swallow the bismuth, which may prove useful when associated with an absolute milk diet.

The following powder will act at the same time on the ulcer, on the hyperacidity, and on the pain:

℞ Magnesiæ, 20 grains;
Bismuth subnitratis,
Sodii bicarbonatis, of each 15 grains;
Pulv. opii, 1 grain;
Sacchari lactis, 1 grain.

For one powder. One or two powders a day, in one dose, in a little water.

Great care must be taken to keep the bowels open; calomel and jalap are useful for this purpose.

When we are called to a patient who is vomiting blood, we must at once remove the clothes, put him to bed with his head low, lying on his back, and recommend him to remain perfectly quiet. Inject hypodermically some ergotin into the skin over the epigastrium, and apply ice to the same region. Give from one to two grains of extract of opium, and then, every two hours, one tablespoonful of this mixture:

℞ Ext. ergot fl., f ʒ iij;
Acid gallici, gr. xxx;
Ext. opii fl., ♏ xl;
Syrup terebinth, f ℥ j;
Aquæ aurant. flor., q. s. ad f ℥ vj.

Mix.

Continue the use of this mixture until the hemorrhage has entirely ceased.

Various complications may arise which will have to be dealt with.

In the event of syncope, have recourse to the ordinary means: horizontal position, head low, amyl nitrite, injections of ether or of Hoffmann's anodyne, flagellation, mustard

plasters to the legs; as a last resource, transfusion, which sometimes has a wonderful effect.

When the patient is in danger of suffocation from the passage of blood into the larynx, introduce your fingers into his mouth and practise rhythmical traction on the tongue.

When there are symptoms of acute peritonitis, possibly indicative of perforation, prescribe absolute immobility, extract of opium internally, and injections of morphine over the epigastrium.

The patient may suffer from incoercible vomiting. This must be stopped as rapidly as possible, seeing that it keeps up, or even increases, the hemorrhage. In addition to the classical treatment of this complication, you may prescribe:

℞ Picrotoxin,
Morphine hydrochloratis, each gr. j;
Atropinæ sulphatis, gr. 1-5;
Ergotinæ, gr. xv;
Aquæ dest., f ʒ iv;
Spt. vini rectificati, q. s. to dissolve.
Mix. From eight to ten drops in a little water.

In addition to these accidents, the hematemesis may be followed by others. The blood which has not been vomited may undergo putrid fermentation either in the stomach or in the intestine, all the more easily in the latter organ if the patient be constipated. This constitutes a serious risk of autointoxication; the existence of this complication may be inferred from a fetid odor of the last-vomited matter and also of the breath of the patient. This condition is effectually dealt with by clearing out the bowels, both by means of enemata (with glycerin, or with a tablespoonful of sodium hypochlorite) and purgatives.

When the patient has survived the hematemesis and the immediate and more remote complications, he still remains, as a rule, markedly anemic and weak. The normal treatment of this condition by means of more strengthening food being impossible, or at any rate contraindicated by the very cause which brought it on, it will be necessary to have recourse to medicinal agents.

In such a case the author prefers the perchloride of iron, which is both hemostatic and tonic; the other salts of iron are apt to determine congestion and thus favor a recurrence of the hemorrhage. The iron should, of course, not be administered until the patient has ceased taking gallic acid.

In eight or ten days stop the perchloride, as it may prove irritating to the mucous membrane if continued too long. It may then be replaced by the protochloride (which is probably transformed into perchloride in the stomach) in association with cinchona and rhubarb, as follows:

℞ Ferri protochloridi,
Extract. cinchonæ fl., of each gr. ij;
Pulv. rhei, gr. j.
Mix. For one pill.

The patient to take one of the pills with each of the two principal meals.

NOTES ON THE TREATMENT OF TYPHOID FEVER.

In an article in the *Philadelphia Polyclinic* of December 4, 1897, with the above heading S. Solis-Cohen tells us that should a routine treatment of typhoid fever have to be pursued, there is no question that least harm and most good will result from the employment of systematic bathing in cold water after the method of Brand. But this treatment is not always necessary, nor is every case bathed best treated by undeviating adherence to Brand's method. As the writer had the pleasure of advocating the Brand system and of employing it according to his then limited facilities before many of its present advocates had seen fit to forego the use of antipyrin and similar methods, he states that he does not hesitate to place himself on record against the extreme views now given vogue. Unquestionably water, and often cold water, is the one agent of greatest utility in the management of enteric fever. Water should be used freely in every case, and should be used both internally and externally. In severe cases, or in cases that promise to be severe, if seen before the tenth day, systematic plunging in cold water should be instituted at once; and the now classic directions of Brand should be followed with reasonable strictness. The inexpert will do better by following them to the letter, than by attempting modification. The experienced will adapt his directions to circumstances. Between the tenth and twelfth days it is doubtful whether plunging should be begun. After the twelfth day the inexpert should never begin plunging. Plunging begun earlier will of course be continued or discontinued according to circumstances. When plunging is not well borne, or when for any reason it has not been instituted, frequent cold or cool sponging should be carried out. This is partly to reduce temperature, but largely, like the bathing, to promote general metabolism,

to stimulate excretion, and to keep up the tone of the peripheral vessels, which Dr. Woods Hutchinson so aptly calls "the skin heart."

The temperature index may serve as a guide to sponging as to bathing. When the temperature in the mouth does not exceed 103° F., the patient may be sponged every second or third hour with water at a temperature of 70° F., which may, if necessary, be gradually reduced to 50° F., in the course of ten to twenty minutes. When the temperature exceeds 103° F., sponging must be done at least every second hour, and the temperature of the water be correspondingly lowered—60° or even 50° to begin with, and rapid reduction to 32°, being useful at times. The effects on temperature, pulse, respiration, excretion, sleep and general comfort must be the guides as to the time, temperature and other details of the application; as a rule, patients should be allowed to sleep undisturbed for about four hours, even when applications are being made every second hour during wakefulness.

To reduce temperature, should this be thought necessary, and to prevent or control tympanites or hemorrhage, the continuous application of ice to the abdomen—usually over the right iliac fossa—is useful. Sometimes it is advisable to intermit the use of ice, or to alternate the application of ice to the head and abdomen. In cases of severe nervous and cerebral symptoms or very high temperature, there may be continuous application of ice to both head and abdomen. McCormick has had excellent success with the use of guaiacol externally.

The patient should be encouraged to drink cool water freely and frequently. The temperature should be that found to be most refreshing. Ice water should not be used.

Internal medication is useful. The bowels should be cleansed by enema on admission (unless after the tenth day), after which, according to circumstances, a few small doses or one large dose of calomel should be given. After the "calomel stool," intestinal disinfectants may be usefully employed. These may not kill Eberth's bacillus, nor neutralize its toxins, nor chase after it into the spleen or cerebrum; but they do render the patient's intestine a less favorable breeding ground for this organism and its many named and unnamed congeners; they do diminish the formation and hence the absorption of various named and unnamed toxins; they do render the course of the case less severe.

During the second week strychnine is useful in small does, say $\frac{1}{100}$ to $\frac{1}{80}$ grain every second to sixth hour. During the third week it may be increased to $\frac{1}{30}$ grain every third hour, if need be. Alcohol is rarely necessary before the third week, and often unnecessary throughout. In case of high fever, however, it sometimes saves combustion of tissue, and when the Brand system is carried out a little red wine (1½ ounces) should be given before and after each bath.

Concerning complications the writer refers to hemorrhage only. He believes opium to be our best remedy. With this, continuous application of cold to the abdomen by means of the ice-bag and the use of turpentine may be combined. Ergot is useless. Calcium chloride may possibly be useful. The writer thinks it has been useful in his hands, but he has also seen it fail to do any good. McCormick advises strongly against the use of opium in hemorrhage, and warmly advocates flushing of the colon with cold water. His results have been good, but he hesitates to abandon the classic plan, which has hitherto yielded good results in his own practise.

USE DIPHTHERIA ANTITOXIN PROMPTLY AND BOLDLY.

The *Philadelphia Polyclinic* has from time to time given what is deemed conservative advice in regard to the employment of antitoxic serum in the treatment of diphtheria. While viewing the new treatment favorably, it urged caution at first in the selection of cases, until the dangers and limitations of the remedy were known. It then, as evidence accumulated, pronounced in favor of the early and sufficient administration of the antitoxin in cases of determinate diagnosis. As the result of increasing experience and observation, as well as from study of published reports, it is now prepared to occupy and defend the most advanced position, namely, that without waiting for bacteriologic confirmation of diagnosis, every patient who presents clinical evidence of diphtheria should at once receive a "curative dose" of serum, and all children of the household should be immunized by the same agent. Adults should be immunized if likely to be much exposed, and may be immunized, if they desire it, even if not specially exposed.

Of drugs of this class, one may use guaiacol or its combinations, of which the writer prefers the carbonate; phenyl salicylate (salol); betanaphthol or its benzoyl compound (ben-

zonaphthol); creosote or its carbonate (creosotal); carbolic acid and iodine; and the like. The writer usually employs salol or guaiacol carbonate, in doses of about five grains every second to fourth hour; more recently he has used benzonaphthol in doses of ten or fifteen grains. If diarrhea is troublesome, bismuth salicylate may be used with the more powerful antiseptic. If constipation be a feature of the case, an enema should be used every forty-eight hours, except during the period when ulceration is at its height, say from the twelfth to the sixteenth day, when the bowel should be let alone.

If, notwithstanding the free use of water, the urine is not excreted in sufficient quantity (that is, if it be less than thirty ounces in a day) some mild diuretic, as solution of ammonium acetate, or sweet spirit of niter, or infusion of buchu, should be given. This is rarely necessary, as the water drunk is usually an efficient diuretic, and the stimulation of the skin likewise assists excretion.

When the tongue is dry, harsh, fissured, covered with brownish fur, turpentine is useful beyond doubt. Sufficient must be given, about fifteen drops in emulsion or syrup of acacia, every second to fourth hour. If any sign of renal irritation develops, turpentine must be abandoned. Cohen has, however, never seen it do harm, and has seen it do good too often to be laughed out of its use. It also serves well in cases of tympanites or hemorrhage.

It is important to have a good syringe. It is of the highest importance to have a trustworthy serum, of as high potency as possible, so that a dose small in bulk shall be large in antitoxic units. The serums made by certain American houses are fully equal to the imported preparations, if, indeed, they are not superior. They are, in addition, more readily obtained and are likely to be more recent. No preparation that is not standardized should be employed, unless it is the only one available; and in every case the higher the number of antitoxic units per cubic centimeter the easier it is to give an efficient dose.

The failures that occurred in the early days of serum therapy in diphtheria are to be attributed to tardy and half-hearted employment of the remedy, to insufficient dosage, and to the low potency of the commercial serums, requiring a bulky injection, difficult and painful to administer.

For a child of three years, the initial dose in a tonsillar case of moderate severity seen early should be 1000 to 1500 units; in nasal or laryngeal cases, or in cases in which the lower pharynx is invaded, or severe cases of any variety, the dose should be 2000 units; and in any case first seen as late as the fourth day, the dose should be 2000 to 3000 units. The injection should be repeated in from twelve to twenty-four hours, according to circumstances. For immunizing, 500 units should be the dose; or if infection and incubation be suspected, the curative dose of 1000 units should be given at once.

With antitoxin properly and promptly used, the throat being kept clean by applications not too frequently repeated—of which Loeffler's solution (toluol and ferric chloride) is said by competent observers to be the best—pharyngeal diphtheria is robbed of the greater part of its terrors; while intubation in laryngeal diphtheria has a far more favorable prognosis, the deaths now being fewer than were the recoveries previous to the introduction of antitoxin. What is needed, however, is promptness and courage in the use of the remedy. If *The Polyclinic* has by its former caution contributed in any degree to the hesitation with which some members of the profession resort to the use of antitoxin, we trust that this article will make amends and inspire the doubters with decision and boldness.—*The Polyclinic*, Dec. 11, 1897.

THE ERYSIPELAS-TOXIN TREATMENT OF SARCOMA.

The editorial department of the *New York Medical Journal* of December 4, 1897, tells us that it is evident the last word was not spoken on the subject of Dr. Coley's method of treating sarcoma when, some months ago, it was publicly discountenanced by the New York Surgical Society. As to any effect that the Society's decision may have had in the way of deterring surgeons from further resort to the treatment, it seems to have been felt wholly at home, for every now and then we meet with encouraging reports of trials of the method in foreign countries. The latest of these that has come to our notice was made by Mr. Mansell Moullin at a meeting of the Medical Society of London held on November 8, a report of which is published in the *British Medical Journal* of November 13.

Mr. Moullin showed two patients on whom he had employed the treatment for tumors suspected to be sarcomatous. One was a man twenty-eight years old, who was admitted into a hospital in November, 1895, with

a swelling in the groin of four weeks' standing. It occupied the right iliac fossa and dipped deep on the inner surface of the pubic bone. It was firm, not fluctuating, rather tender, and situated beneath the iliac vessels. Near it there were four enlarged glands. The patient appeared ill, and his temperature is described as having been irregular. On December 4 half a minim of Coley's fluid was injected, and the next morning the man's temperature had gone up to 100.8° F. That afternoon an injection of a minim was given, but without result. On the 6th and 7th, in the evening, the temperature was 102°. After that the injections were given every second or third day, and the amount of fluid injected at a time was increased gradually to six minims. Some of them were followed by rigors, and others were not. The treatment was continued until the end of February, when it had ceased to have any effect. Mr. Moullin thinks it proved beneficial, for the man's weight rose from a hundred and thirty-eight to a hundred and forty-five pounds. At first the tumor increased rapidly in size, and the skin over it grew red and tender; but about the middle of January it was noticed that the tumor was smaller and that the enlarged glands were less noticeable. At the end of the month it became larger again, and had all the appearances of being acutely inflamed. By the beginning of March it had shrunk and grown hard and irregular in outline, and there was very little of it to be felt. Since that time, for a period of twenty months, there had been hardly any change in it.

The other patient was a man forty-eight years old, who was admitted on November 10, 1896, with an abdominal tumor which is described as a large irregular swelling, elastic, hard, not fluctuating, not connected with the skin or muscles, and occupying the left flank. It descended into the iliac fossa below and extended under the false ribs above, while in front it reached nearly to the middle line. There was no glandular enlargement or pain. The tumor increased rapidly in size. On December 14 half a minim of Coley's fluid was injected, and the man's temperature rose to 100°. The injections were given every two or three days, and the amount injected was increased gradually to six minims. On the 19th there was a rigor after an injection of four minims. On January 24 there was another rigor after an injection of seven minims, and the temperature rose to 103.6° the next day. It was above normal for a fortnight, and no further injections were given. The account of the case concludes as follows: "The tumor continued to grow until it pressed upon the colon and threatened obstruction. In January it became acutely inflamed, but this subsided, and the tumor began to shrink until it could scarcely be felt. The patient left the hospital in March stouter and stronger than on admission."

Mr. Moullin conceded that it was impossible to be sure that these tumors were sarcomatous, but he declared that he himself had no doubt of it and said it was difficult to imagine what else they could be. Certainly, he added, they were not gummata, and there was nothing to suggest an inflammatory origin. He conceded also that the use of the remedy was attended with some danger, and stated that another patient of his, who was in a weak condition, had died shortly after the second injection. He said he had employed the treatment in nine cases of sarcoma, and one death had occurred. One patient had declined further treatment after two or three injections, and two patients were still under treatment. In three cases the growths had disappeared, and in the others, although the tumors had not disappeared, they had become greatly modified and had diminished in size for a time. He confessed he was unable to decide whether the fluid acted as a specific or merely by provoking inflammation. He recalled that Dr. Coley had published accounts of twenty cases, well authenticated, in which the tumors had disappeared and the patients had remained free from recurrence.

Mr. Watson Cheyne, who remarked that Dr. Coley's statements could be relied upon implicitly, said that he had employed the method in two cases, in one of which the growth had been recognized to be sarcomatous. He called attention to the fact that in all Dr. Coley's cases the tumors had been of the spindle-celled variety. Dr. Colman alluded to the results of the post-mortem examinations of two persons who, after having been subjected to the treatment, had died of some intercurrent disease. In one there had been found a large area of softening in the interior of the tumor, and in the other cicatrices had been found which probably marked the site of past inflammation. Mr. Moullin said he had never had an opportunity of examining a tumor after the treatment, but in a case that was still under his observation a central soft portion had sloughed out since the injections had been begun, without hemorrhage from subjacent vessels.

In view of all that has been published in the United States and other countries concerning Dr. Coley's method of treating sarcoma, we are probably not warranted in supposing that, even with any modifications of it that may hereafter be devised, it will be accepted finally as the most trustworthy, for the great strides made in the antitoxin treatment of disease during the last few years justify, we think, the hope and expectation that the bacteriologist will yet provide us with a remedy so efficient that it will cease to be thought of any consequence whether a malignant growth is susceptible of excision or not. Still, as constituting perhaps the best treatment thus far proposed for cases of sarcoma in which the removal of the tumor would be too perilous, the erysipelas-toxin treatment deserves, we are inclined to think, much further trial pending the discovery of such a remedy as we have alluded to. At all events, taking into account the favorable impression it has made on some well known surgeons in France and England, we trust it will not be dropped summarily in the land of its originator.

THE TREATMENT OF ABORTION.

In an interesting letter to the editor of the *Medical News* under date of November 20, 1897 (*Medical News*, Nov. 27, 1897), Dr. PAUL F. MUNDE tells us that he has read with interest a recent article on "The Treatment of Abortion" and begs to be allowed to offer several criticisms:

1. The author very properly pronounces Thomas' small dull-wire curette as useless for the purpose of emptying the uterus during an abortion, and declares his (Thomas') "large dull-wire curette, with an opening admitting the tip of a forefinger, an admirable instrument for the purpose, formidable as it appears."

Munde thinks the author is in error in calling Thomas' large dull-wire curette a "formidable instrument." The only two dull-wire curettes which go by the name of Dr. Thomas are the small one, which is used for removing intra-uterine vegetations and is useless in abortion, and a somewhat larger one, which he has employed for years in abortions under two months, where others use Recamier's or Sims' curette or Simon's sharp spoon. Munde has never found it necessary to employ a sharp curette in early abortions, or even later, unless there had been an acute endometritis with inflammatory adhesion of the placenta.

The curette which the author calls a "formidable instrument" can be no other than the large dull curette, attached to a long, stout shank and handle, which Munde first introduced to the profession in 1883 (see *American Journal of Obstetrics*, February, 1883) in an article on "The Immediate Removal of the Secundines after Abortion" (and which is mentioned and pictured again in his "Report of the Gynecological Service of Mt. Sinai Hospital," *American Journal of Obstetrics*, October, November, and December, 1895), and has been sold by instrument-makers under Munde's name for years.

There are two shapes of Munde's placental curette, one round and the other oval, the latter being especially designed for use when the cervical canal is long and not fully dilated. After the second month both can usually be inserted without difficulty through a fully dilated canal. A large flat forceps for the removal of the detached decidua accompanies the curettes. The curettes may be used whenever the canal is sufficiently dilated to admit the index-finger.

2. The author criticized fails to lay down, as a condition indispensable and invariable for the efficient and thorough use of the curette after abortion, that the uterine canal should be sufficiently dilated to permit the index-finger to explore the uterine cavity to the fundus, in order not only to determine the quantity and location of the retained secundines, but also to enable the operator to be perfectly sure that the cavity has been entirely emptied when the operation is completed.

To trust to the information on this point imparted by the curette alone, even in the hands of the most expert operator, is notoriously unsafe.

3. The same author has omitted to mention that at times great assistance is afforded to the cervical dilators which he mentions by gently nicking the lips of both the external and internal os with a straight, blunt-pointed knife, especially when the edges of the external os are rigid and cicatricial as occasionally happens after a trachelorrhaphy.

Munde has found the index-finger, assisted by counter-pressure over the fundus with the other hand, as good a dilator as any of the cones or olives, provided it was possible to insert its tip ever so little into the internal os. In incomplete abortion, when any considerable portion of the secundines is retained this can usually be easily done.

4. Munde cannot agree with this author's

advice and practise to tampon either the uterus or vagina after emptying the former of the products of conception. An empty uterus after abortion always contracts, and all hemorrhage from its cavity ceases. A failure to contract at that time is an exception. To pack the uterus is therefore unnecessary, and rather tends to interfere with contraction and involution than to aid them. And why pack the vagina? He usually employs a hot sterilized or carbolized intra-uterine douche after emptying an aborting uterus, and he can scarcely recollect a case where prompt contraction and cessation of bleeding did not take place. Only in a woman very much exhausted from hemorrhage might it be advisable to pack the empty uterus after abortion with iodoform gauze, or better sterilized gauze, in order to save her even the few drops of blood which would ooze away during the first day or two, until she has rallied. At least this is Munde's opinion, and has been his practise for many years, and he has no reason to regret or change it. Of course, if the object of packing the uterus is to influence a septic condition of the endometrium, the case is different. But then it would seem to him that gauze soaked in peroxide of hydrogen, or kept moist with the forty-per-cent. dilution of alcohol recently recommended by Dr. Ill, must be preferable to iodoform gauze as a uterine packing.

ANESTHETICS.

In the *British Medical Journal* of November 20, 1897, WALLER contributes an important paper on anesthetics. His opinion is altogether adverse to chloroform, and he believes chloroform is seven times as powerful as ether, and therefore more dangerous. He is greatly astonished that in the face of the clinical experience of the past fifty years chloroform should still be frequently employed in minor surgery, though he is well aware of the superior convenience of chloroform over ether, and that there are cases and circumstances rendering its use justifiably preferable to that of ether. But he believes that the proportion of such cases is very small in comparison with the actual number of cases in which it is habitually employed.

With regard to ether, Waller thinks an exaggerated estimate has been given of the inconvenience of administration, of the physiological counter-indications, and of the pathological after-effects.

With reference to the admittedly large number of deaths by chloroform, there seems to be no escape from the two horns of a dilemma. Such deaths are the result (*a*) of an agent dangerous under all circumstances, or (*b*) of an agent dangerous only when unskilfully administered.

(*a*) If chloroform is dangerous under all circumstances, it may not be employed in minor surgery. Death in this class of cases is therefore unjustifiable, and should be considered as a criminal offense.

(*b*) If chloroform is dangerous only when unskilfully administered, then again death by chloroform is unjustifiable, and ought to be considered as a criminal offense.

There can be no escape from one or other of these two alternatives. There have been deaths due to careless or to unskilled administration; there have also been deaths in skilled and careful hands. But unless we are to admit that chloroform is a "safe" anesthetic, and any death the result of carelessness or ignorance, we must admit that chloroform, being a potent reagent, is, *ipso facto*, a "dangerous" reagent, to be used only on serious grounds, and not to be employed as a routine drug in all kinds of cases, simply on account of its superior convenience.

THE RELATIVE EFFICIENCY OF VARIOUS ANESTHETICS.

The *British Medical Journal* of November 20, 1897, speaks editorially of Waller's paper on anesthetics in which he discusses the relative advantages of ether and chloroform. Dr. Waller's experiments have convinced him that the most satisfactory way of testing the efficiency of anesthetics is to employ freshly prepared nerves, and to cause them to respond to electrical stimuli while subjected to various narcotizing vapors. The method is as beautiful as it is original. Not only is he enabled thus to investigate the anesthesia produced, or, as he terms it, "temporary immobilization," but to ascertain the strength of vapor which kills the nerve and produces "permanent immobilization." Under ordinary physiological conditions the galvanometer reveals the presence of currents in the nerves. The action of narcotics is to send the nerve to sleep, and the absence of the current is proof positive of this anesthetic sleep. Remove the vapor and the nerve recovers itself, and again the nerve currents appear. Now, by testing a number of substances, Dr. Waller has found that while all those which produce anesthesia also

bring about death of the nerve, some are far more deadly than others. Richardson, in his lectures on narcotic vapors, was disposed to regard the chemical and physical properties of narcotics as affording no criteria of their power as anesthetics, but his methods lacked the precision of those now under consideration. The heart is capricious because it is a compound organ with a nerve factor, a muscular factor, and a nerve-cell factor. Dealing with isolated nerve the problem becomes immeasurably simpler, and at the same time the experiments can be kept absolutely under test conditions.

We have hitherto been assured that chloroform killed either by paralyzing respiration through the nervous system, leaving the other tissues severely alone, or brought about death through circulatory failure, due, it may be, to vasomotor dilatation, or through incapacitating the heart. Now we learn that not only does chloroform destroy muscular tissue and narcotize the nervous centers through its influence on the blood, but actually attacks nerve fibrillæ, and destroys their irritability. It is a matter of indifference to "the man in the street," as Dr. Waller points out, whether he is killed through his heart failing or by asphyxia; what interests him most is how he can be saved pain with as little chance of losing his life as his surgeon can conveniently arrange. From this point of view it is somewhat startling to find that dose for dose chloroform is seven times more deadly than ether when tried upon the isolated nerve—that is, upon a highly specialized protoplasm. And what appeals most to the practical man is that these figures show how narrow a margin in the case of chloroform there is between a non-lethal and a lethal dose, while seven times that margin exists when ether is in use. The specific action of nitrous oxide has been asserted by some, but denied by Wood and Cerna and the late Sir George Johnson. Dr. Kemp's careful study confirms the former view, but according to Dr. Waller it is an anesthetic which has little or no action on nervous tissue. Carbonic dioxide, which Snow and Richardson lauded as an anesthetic, is, Dr. Waller finds, a powerful agent to produce "immobilization," thus confirming the assumption of the older observers. But a fact of extreme interest, because unless carefully explained liable to fatal misunderstanding, is Dr. Waller's observation that the presence of carbon dioxide favors anesthesia and lessens its risk. The combination of chloroform and carbonic oxide is not, it must be distinctly understood, simply chloroform given with very little air. This distinction is made very plain by Dr. Waller himself.

Accepting nerve tissue as a criterion of the vitality of the constituents of the body, these experiments are very striking, and reveal in a clearer light the profoundly powerful character of chloroform.

In the statistics of deaths under these two anesthetics ether stands better than the proportion of seven to one. The proportion in its favor is about thirteen to one; but, as Dr. Waller pointed out, the problem of the action of narcotics on the whole organism, although exemplified tersely by a nerve experiment, is in itself far more complex. It is often stated that the after-effects of ether are far more fatal than those due to chloroform; but no foundation in experiment or statistics exists to prove this, and, as Dr. Waller cogently puts it, the use of chloroform, if it be dangerous under all circumstances, is, unless under exceptional circumstances, unjustifiable; and if it is only dangerous when unskilfully given, its deaths amount to homicide. This is Dr. Waller's chloroform dilemma.

The discussion, in which Professor Richet, Dr. Lawrie, Dr. Shore, Professor Gaskell and Professor Stewart took part, turned mainly upon the oft-debated evidence afforded by cross-circulation experiments, as to whether or not the fall of blood-pressure incident to chloroform narcosis is brought about through depression of the vasomotor center or through weakening of the heart itself. How far such experiments can be accepted as conclusive remains to be seen in the face of so much evidence which has now been accumulated by the researches of MacWilliam, Hare and Thornton, Leonard Hill, and others; it is difficult to exclude the vasomotor center as in some way causative of the fall of blood-pressure under chloroform. The practical fact which stands out in terrible distinction is that deaths under chloroform have not lessened in spite of physiology or Hyderabad Commissions. It is useless to contend that these deaths arise because the physiologists teach dangerous tenets, since the large percentage of persons who give chloroform know little of and probably care less for physiology. It is rather the careless and the overconfident in whose hands such accidents happen, while as a rule it is safer in those of persons who have leisure and training to follow the trend of modern thought and teaching concerning anesthetics.

THE TREATMENT OF ATROPHIC RHINITIS.

CASSELBERRY, the well known rhinologist of Chicago, writes on atrophic rhinitis in the *New York Medical Journal* of November 20, 1897. He asserts that in looking over the literature of this subject somewhat, we will find that although many drugs have been employed in the treatment of atrophic rhinitis, yet they have nearly all been used upon the general principle of producing what is called by some "stimulation," by others "irritation." These two terms are alike in kind, differing only in degree.

We find that the German school, clinging as usual to their belief that this disease, like all others, is caused by the presence of unusual kinds of bacilli or bacteria in unusual numbers, advocate the use of solutions of bichloride. Koch tells of the great benefit and complete cure in some cases of atrophic rhinitis by the use of a spray of 1 to 4000 bichloride.

Löwenberg always uses antiseptic douches of mercuric bichloride (1 to 4000), having first removed the crusts with warm saline solution.

Thost applies bichloride of mercury in a solution of 1 to 2000 with a camel's-hair brush twice a day. He remarks that this treatment has been in vogue for a number of years and has always produced good results.

Of the Italian school, Cardone (professor at the University at Naples), believing that atrophic changes in the nose are similar to the process of pneumonia and dependent upon the same bacilli, uses the bichloride in a solution of 1 to 2000, giving internally iron and cod-liver oil; and Marano bases the same treatment upon the same belief.

One of our fellows, Dr. Mackenzie, of Baltimore, has made use of a solution of mercury bichloride, two grains to a pint of water, by atomization, and recommends the same as a gargle and nasal wash.

Belfanti says that having used with great benefit the diphtheria antitoxin in ozena, he employed it also in atrophic rhinitis, and to his great astonishment obtained very favorable results. He has not as yet tried the treatment long enough to publish his cases.

Electricity, so highly commended by some physicians, has been used largely by Dr. Shurley, who in 1880 was the first to recommend it, and the treatment has been used to quite a large extent by others. The application of the positive pole of the galvanic current to the back of the neck and the negative pole to the nostrils to produce stimulation has been the usual method employed by Drs. Shurley, Delavan, Hartman, and others. The exact technique can be found in the Transactions of the American Laryngological Association. Even the faradic current has been used and recommended; also the use of copper electrodes on the principle of electrolysis.

Another method of treatment is that recommended by Gottstein, by which the nasal mucous membrane is stimulated or irritated by the introduction of absorbent cotton into the nostrils, or some form of medicated wool, as recommended by Woakes.

Among the various drugs which have been employed in this way are iodoform, iodol, aristol, salicylic acid, camphor, iodine, perchloride of iron, tannin, alum, rhatany, and opium. Medicated bougies, manufactured with a basis of gelatin and glycerin and medicated with the drugs just mentioned, have been used a good deal in atrophic rhinitis, and this method by which drugs can be kept in contact with the mucous membrane for a long time seems to be a reasonable one. The inhalation of stimulating volatile substances obtained from the essential oils and from cubebs, tar, eucalyptus and thymol has also been largely employed; and we find in the shops a number of varieties of so-called autoinsufflators, by means of which the patient is enabled to blow into his own nostrils the fumes of carbolic acid, menthol, oil of pine, etc.

A somewhat different plan of treatment, but intended to produce proper stimulation and secretion, is called "massage" of the mucous membrane. Laher, of Vienna, says that this method of treatment has given most satisfactory results. The method is employed by wrapping cotton around a probang introduced against the atrophic mucous surface and held in position by the left hand, while regular motion is made by vibrating the left arm with the right hand. The writer states that after a few days normal secretion is established and the crusts become thinner and fewer in number. He believes that this method of treatment will recommend itself very highly to anybody using it.

Demme has found that massage performed after the manner described is made still more efficacious by using a twenty-per-cent. solution of pyoktanin in lanolin. He has succeeded, he says, in every case. Garnault and others have used massage by means of electrical vibrations.

It seems to the author that the use of destructive agents in the treatment of this disease deserves mention only to be censured. It is possible that an obstinate ulceration will require to be cauterized, but it seems a very useless procedure to recommend the galvano-cautery and chromic acid where their use can be indicated only in rare instances, and then should be employed in the most judicious way. If the middle turbinated body needs to be reduced in size or a deflected septum is too prominent, as may be the case in atrophic rhinitis, cutting instruments will accomplish the result desired in a much more reasonable way. We cannot afford to still further devitalize an atrophic septum with a heated electrode.

Many articles have been written on atrophic rhinitis where nothing more is offered in the way of treatment than the spraying of solutions of borax in glycerin, ammonium chloride in glycerin, solutions of chlorate of potassium and of phosphate of sodium and phosphate of ammonium, snuffs of animal or wood charcoal, compounds of honey and terebene, and ointments of creosote. Mather thinks it important to combine opium with his saline douches, and if irritation and headache are produced by the nasal wash, recommends the smoking of a cubeb cigarette.

Struebing affirms that he has used every medication that has ever been recommended, and he has arrived at the conclusion that the nose should be cleaned by instruments because douching is harmful to the ears, and that the only successful plan of treatment is the use of bougies medicated with creolin, or better still, metacresolaristol in one-per-cent. aqueous solution.

Wendell Phillips recommends an antiseptic solution called baptoline, and also one of acetotartrate of aluminum in water, half a drachm to the ounce.

Several drugs have been employed which deserve rather more attention. One of these is resorcin. Masini, as far back as 1882, was using one-half of one per cent. of resorcin combined with vaselin, applied with the brush. He says the treatment is an ideal one. Other practitioners have used it in solution, and it has been employed quite generally in New York, though the results obtained by its use have not fulfilled expectations.

The use of hydrogen peroxide seemed for a time to promise great amelioration in this disease, and as a germicide and disinfectant its ability is unquestioned. It is, however, a rather troublesome medication to employ, and in the writer's hands, while it produces cleanliness, is not a useful stimulant, but leaves the mucous membrane quite as dry as ever. In anything like strong solution he has found it quite irritating and apt to produce a subacute nasopharyngeal catarrh.

Professor Cozsolino, writing in 1887, says that after cleansing the nostrils, either absolute or diluted ethyl alcohol (C_2H_5OH) should be applied on small sponges or on pieces of absorbent cotton. He considers this application as one of the best antiseptics and fulfilling in a remarkable degree the properties of stimulation to the mucous surface of the nose. He used ozone for a time and with some benefit, but the apparatus is complicated, and such remedies are apt to fall into disuse.

HOLOCAINE VS. COCAINE.

The *Journal of the American Medical Association* of November 13, 1897, contains an article upon holocaine by the well known ophthalmologist, Dr. Hotz. He tells us that he first tried it on a few normal eyes and on eyes with foreign bodies in the cornea, with the following results: The instillation always caused more or less smarting and burning, which, however, lasted but about half a minute; it also produced considerable redness of the conjunctiva (palpebral and ocular), which persisted during the whole period of anesthesia. Within one and one-half to two minutes complete anesthesia of the cornea was noted; after six minutes the sensibility of the cornea began to return, but a second instillation prolonged the anesthesia for another five minutes; and if then another drop was instilled the anesthesia could again be continued. It would seem, then, that the anesthetic effect of holocaine can be kept up indefinitely by repeating the instillation every five minutes. With cocaine this cannot be done; at least the writer has noticed that if the eye is coming out of the cocaine anesthesia, repeated instillations do not restore the anesthesia; on the contrary, he has often found the eye becoming more sensitive the more cocaine was used. Holocaine does not contract the conjunctival blood-vessels, and therefore causes neither bleaching of the eye nor lessening of the lacrimal secretion nor drying of the corneal epithelium. It does not dilate the pupil and has no effect on the accommodation. On account of these

qualities one would naturally feel inclined to use this new anesthetic in preference to cocaine in all operations on the eye. But a series of comparative tests of the efficiency of the two remedies seemed to show that the anesthetizing effect of cocaine (two-per-cent.) is more thorough and penetrating than that of holocaine (one-per-cent.). The writer had, for instance, two patients with corneal ulcers which required the repeated application of the electro-cautery. He made one application under holocaine anesthesia and the next time cauterized the same eye under cocaine. Both patients, who thought cocaine was used on both occasions, said the first cauterization was decidedly painful, while they did not feel the second one at all. The writer performed an advancement of the externus on the right eye under holocaine and on the left eye of the same patient under cocaine. Complete anesthesia of the conjunctiva was present in both eyes; but the cutting and suturing of the tendon was decidedly painful in the holocainized eye, while scarcely felt in the cocainized eye.

The most telling illustration of the difference in their penetrating effect was furnished by a case of subconjunctival injections of cyanide of mercury. Several injections had previously been made under cocaine, and the pain following the injections was moderate and never lasted over five to ten minutes. The next injection was made under holocaine and caused the most violent pain, which after twenty minutes showed no sign of letting up in intensity; he then instilled cocaine, and within five minutes the patient was free from pain. One week later this experiment was repeated with the same result.

All these observations seem to show that the effect of holocaine is very quick, but superficial; it is therefore a very useful local anesthetic for the removal of foreign bodies from the cornea, and for operations upon the conjunctiva; but for deeper operations, and especially for those which involve the opening of the globe (iridectomy and cataract extraction), he regards cocaine as the more reliable anesthetic.

THE PHYSIOLOGY AND THERAPEUTICS OF THE THYROID GLAND AND ITS CONGENERS.

In the *Journal of the American Medical Association* of November 13, 1897, H. G. WELLS concludes a paper on this topic by the following statements:

Put in compact form, the sum total of our knowledge of the thyroid gland amounts to the following, according to the results of the latest investigations:

The thyroid gland is an organ of very variable size and shape, reaching its highest degree of development at about adult life, and decreasing with old age.

It is capable of great hypertrophy, but probably is not capable of more than a slight degree of regeneration.

Its secretion is a colloid material, which is discharged into the general blood-current by way of the lymphatics.

The colloid material contains the active material of the gland, which is a complex but very stable body, called "thyroiodin," which contains about ten per cent. of iodine.

This substance either acts as an antitoxin to the products causing autointoxication, or furnishes some substance necessary to tissue metabolism.

Thyroiodin is necessary to the animal economy, absence of it in adults producing myxedema; in the new-born, cretinism.

The amount of iodine in the thyroid glands of the inhabitants of any given district varies inversely with the prevalence of goitre in that district.

Thyroid glands of residents of Chicago contain fully four times as much iodine as do glands in the goitrous districts of Germany.

It is probable that glands from the Atlantic coast contain about the same amount of iodine as do the Chicago glands.

Simple parenchymatous goitres contain about the same total amount of iodine as normal glands, but the proportional amount is much smaller. Probably colloid goitres contain the same proportional amount with a very much higher total.

The amount of iodine in the glands of children, from a mere trace at birth, steadily increases until adult years. It then decreases, and in old people again becomes very small.

Therapeutically the thyroid extract is a specific in cretinism and myxedema.

In simple goitre and in obesity the majority of cases are improved or cured.

It seems to have some value in tetany, scleroderma, and arrested growth.

The value in psoriasis and other skin diseases, tuberculosis, insanity, rickets, etc., is doubtful.

It is contraindicated in exophthalmic goi-

tre, heart lesions, albuminuria, and glycosuria. The dose should never be so large as to produce symptoms.

SOME DETAILS IN THE TREATMENT OF PHTHISIS.

Under this title CROOKSHANK in a lecture reported in the *Clinical Journal* of December 15, 1897, speaks in an interesting way of the treatment of this ever present disease. As he well says, a common but very troublesome occurrence in phthisis is vomiting induced by cough after meals. Nothing relieves this so well as the prescription of:

Liquor strychninæ, ♏ v;
Bismuth. subnitrat., gr. xx;
Mucilag. tragacanth., ʒ ss;
Aquæ, ad f ʒ j.
To be taken four times a day.

Other varieties of dyspepsia met with are those complicated by diarrhea. If the diarrhea be, as is often the case, merely lienteric, treatment is simple; but if pain and tenderness in the right iliac fossa be present, and ulceration of the bowel probable, relief is not so easily given. Rest, and usually complete rest, should be enforced, although it must always be borne in mind that, if tubercular diarrhea be suddenly checked and the patient confined to bed, the pulmonary disease will make rapid progress. If the pain and tenderness be marked, the right iliac fossa had better be freely painted with tincture of iodine until the skin be broken.

A comfortable pad of gamgee tissue should be worn on the abdomen so as to keep up gentle pressure. The use of cod-liver oil, cinchona or malt should be stopped at once, and the diet modified, so that milk (plain or flavored with rum), kumiss, arrowroot, cornflour, and Benger's or Mellin's food may form the staple. Solid food, except for a little pounded fish or chicken, is better withheld.

Bismuth is undoubtedly the best drug to give, and its most suitable salts the subnitrate, salicylate, or subgallate, prescribed thus:

Bismuth. salicyl., gr. xx;
Tinc. opii camphorat., ♏ xx;
Mucilag. tragacanth., f ʒ ss;
Aquæ camphoræ, q. s. ad f ʒ j.
To be taken every four hours if necessary.

If this does not check the diarrhea, fifteen minims of tincture of coto should be added to each dose, or half a grain of cotoin given several times a day in pill. These measures failing, it becomes necessary to give opium in some combination or other, the most potent being that recommended by Dr. Fowler:

Cupri sulph., gr. ¼;
Pulv. opii, gr. ½;
Ext. gentian, gr. ij.
Make into one pill and give one two or three times a day.

The pill certainly checks the diarrhea very rapidly, but has a tendency to fur the tongue and set up nausea. It is of most use when given occasionally during the continued administration of bismuth.

The relief of constipation is, of course, as important in phthisis as in any other condition. Mercurials and all cathartics are unsuitable; the best preparations are the German licorice powder, the confections of senna and sulphur, mild aloes and belladonna pills, and the combinations of cascara sagrada. They should be given in small doses twice or thrice a day after meals; and not in one large dose at bedtime. If this plan be followed, the dose can be gradually reduced, and the constipation cured and not merely relieved. The following recipe is useful:

Tinc. nucis vomicæ,
Spt. ammon. aromat.,
Tinc. belladonnæ,
Spirit. chloroformi,
Extract cascara sagrada, fluid, of each equal parts.
Fifteen to thirty drops in water thrice daily after meals.

It is of the greatest importance to carefully examine the teeth in all cases of phthisis, real or suspected. Many cases of indigestion depending on carious teeth have been diagnosed as early phthisis, the suppuration having been free enough to set up mild symptoms of septic absorption, and the mimicry completed by lienteric diarrhea due to the imperfectly masticated food. But in all cases of undoubted phthisis no effort should be spared to have carious stumps extracted, the gums cleansed, and artificial teeth supplied. It is worth noting how few phthisical patients are the possessors of good teeth. As soon as the digestive system has been brought into good order we have to make a choice between certain drugs, valuable both for their general action and their special effect on certain symptoms. The first and best of these is, of course, cod-liver oil. In some cases it cannot be taken; it should be tried in all. It is best given in drachm doses, twice a day, ten minutes after food, and it is best taken from a tumbler between two strata of fresh lemon juice. The dose may be increased if the oil is well borne, though little advantage is gained by heroic dosage, any quantity much above an ounce

daily being passed unabsorbed. And no amount of cod-liver oil that can be absorbed will compensate for a destroyed appetite and nauseated stomach.

The exhibition of gentian and sodium bicarbonate may be continued with advantage while cod-liver oil is given; and should the lemon juice be not acceptable to the patient, the following may be tried:

Ether, f ʒ ij;
Cod-liver oil, f ʒ v.
Dose, two teaspoonfuls.

A third and very excellent method is to give the oil in small doses combined with one of certain acid mixtures. The whole then forms what Dr. Williams has called an oil sauce. One of the best of these mixtures is made up thus:

Acid. nitrici dil., ♏ xv;
Decoction. cinchonæ, f ʒ j.

It sometimes sets up diarrhea, however, and if so one may try:

Liquor strychninæ, ♏ v;
Acid. phosphor. dil., ♏ xv;
Infus. quassiæ, f ʒ j.

A third formula is:

Acid. sulphur. dil., ♏ xij;
Tinc. aurant., f ʒ ss;
Salicin, gr. iij;
Syr. zingib., ʒ ss;
Infus. aurant., f ʒ ss.

Many more will be found in Dr. Williams' book.

These mixtures are excellent in themselves, and form very palatable combinations with the oil. They should be dispensed separately from the oil, and the "oil sauce" only mixed at the time of taking.

Half a drachm of cod-liver oil, five minims of compound tincture of gentian, and twenty-five minims of lime-water make an excellent emulsion for the use of children. Every effort should be made to induce the patient to take cod-liver oil, but it sometimes is obstinately rejected. In that case it is better to fall back on the general tonics than to employ any of the so-called substitutes for cod-liver oil; they are all unsatisfactory. Malt has some diastatic value, but often sets up diarrhea, and the latest suggestion—petroleum—has nothing but novelty to recommend it. As a general tonic few mixtures have a higher value than that of nitric acid and cinchona, just mentioned. It is particularly suitable to chronic cases with good digestive powers. Arsenic is of the highest value, especially in cases marked by anemia and tremor. It frequently controls night sweats, and it is an old clinical observation that if the patient be tired in the forenoon arsenic is indicated. A most convenient way of giving it is as the arsenate of iron, one-eighth grain in pill three times a day. The liquid preparations of iron are badly borne by all tuberculous patients, and do less good than might be expected.

Quinine, although it has little permanent effect on the pyrexia, is best suited to cases with irregular fever. It can be given in five grain doses thrice daily, either in cachet or dissolved in lemon juice with fifteen grains of ammonium carbonate in water, so as to form an effervescing mixture. But the most pleasant way of all is that generally employed in the East, of solution in aromatic sulphuric acid. The combination of two grains of quinine with one of digitalis, to form a pill, is excellent in cases with a small, frequent, and low tension pulse. This pill is, of course, Niemeyer's famous combination, but with the opium omitted, as is best, unless diarrhea be troublesome and depression great. Three or four of these pills may be given every day.

One other drug—guaiacol—is deserving of special mention. Creosote in capsules or dissolved in cod-liver oil is good, but guaiacol is better, and less likely to irritate. Guaiacol carbonate is an agreeable form, of which as much as a drachm can be given daily; but the best formula is:

Guaiacol, ♏ ij–x;
Rectified spirit, f ʒ ss;
Water, f ʒ ss.

This mixture can be given two or three times a day after food, and seldom disagrees if care be taken to begin with small doses of the guaiacol, gradually increased as toleration is established. The writer has several times seen great improvement follow its use, especially in acute cases. But while these drugs of general value are being given some special symptom is sure to claim attention.

If the night sweats be not checked by acids and quinine, the first thing to be tried should be a glass of port-wine negus, given at bedtime every evening. The patient should be sponged about the same time with vinegar and water, or, if we wish to be elegant, dilute acetic acid and eau de Cologne.

The prescription that is most frequently successful is that of a pill—to be taken in the evening—composed of:

Zinci oxidi, gr. ijss;
Extract belladon., gr. ½;
Extract gentianæ, q. s.

The dose of the zinc oxide and belladonna may be increased, if needed, or one-eighth grain of morphine acetate substituted for either ingredient, or a pill containing one-sixtieth grain of atropine sulphate can be given. Dr. Brunton recommends the excellent plan of giving at night liquor strychninæ combined with opium, and pills containing hyoscine, hyoscyamine, picrotoxin ($\frac{1}{6}$ grain), agaricin ($\frac{1}{12}$ grain), or gelsemine ($\frac{1}{60}$ grain), sometimes succeed when other drugs have failed. Pilocarpine has been advocated, and the addition of five grains of Dover's powder to the negus is of use, even if it be not agreeable.

At the best our treatment of night sweating is unsatisfactory, and our knowledge of its ultimate pathology not much better. The current explanation scarcely explains why so many patients sweat profusely in the early stage of their disease, when fever is slight, and not in later stages when fever is marked; and the writer cannot see that the sweating of the early stage of phthisis is quite the same as that of the last stage of all.

In this last stage the hectic is as much due to the infection of the cavities by pus cocci as any other cause. In the early stage, before breaking down has commenced, it can only be due to absorbed products of the tubercle bacilli themselves. In the intermediate stages, when products of caseation are being coughed up and streptococcic infection has not yet taken place, absorption of chemical products would naturally be less. The writer is therefore inclined to regard sweating rather as a direct manifestation of toxemia than as due to the nocturnal fall of temperature. The ordinary nocturnal ebb of the body's functions would probably by itself be sufficient to determine the time of the sweating.

Cough being a reflex act designed to remove harmful matter from the air-passages, it follows that a cough checked is not always a cough well treated. But it is nearly always expedient to secure a night's rest by giving, the last thing in the day, a tincture containing morphine. Either of these formulæ will be found useful:

Liquor morphinæ acetatis, ♏ viij;
Ether. chlor., ♏ vj;
Succi limonis, ♏ xv;
Mucilag. acaciæ, ad f ℥ j.
Dose, one drachm.

Morphinæ acetatis, gr. 1-16;
Acid hydrocyan. dil., ♏ ij;
Oxymel scillæ, ♏ xxx;
Aquæ, ad f ℥ j.

Unless there be a tendency to hemoptysis it is best not to give morphine mixtures during the day, but to employ a simple preparation containing either acid and oxymel or ammonia and squill. It should be remembered that acids check, and alkalies promote, pulmonary secretion. It is best, then, to reserve the combinations of ammonia for cases with secondary bronchitis, when the following prescription may be used:

Tinc. hyoscyami, ♏ xx;
Spirit. chloroformi, ♏ x;
Misturæ ipecac. cum ammoniæ, ad q. s. f ℥ j.

If the sputa be very tenacious an alkaline draught, taken in warm water on first waking in the morning, will be found to loosen the secretion and prevent retching from continued cough. Such a draught may be composed of:

Sodii bicarb., gr. x;
Sodii chlorid., gr. iij;
Ether. chlorid., ♏ v;
Aquæ anisi, f ℥ j.

One should, however, seek to reduce as much as possible the amount of medicine taken into the stomach, and in the treatment of cough there is ample opportunity for alternative methods. Nothing gratifies patients more than the simple licorice and aniseed lozenges familiarly known as the "Brompton Blacks." Equally pleasing, and of rather more benefit, is the use of Yeo's respirator on which some volatile fluid has been dropped, for half an hour several times a day. Useful formulæ are:

Ol. eucalypti, 50 parts;
Spirit. chloroformi, 50 parts.

Ol. pini sylvestris, 50 parts;
Spirit. vini rect., 50 parts.

Menthol, 20 parts.
Ol. olivæ, 80 parts.

About twenty drops of any of these combinations may be used on each occasion; but as they are all stimulant and expectorant, none of them should be prescribed if hemoptysis has recently occurred.

Excellent sedative inhalations can be made by adding succus conii f ℥ j, tinctura lupulini f ℥ ij, or tinctura hyoscyami f ℥ j, to eight fluidounces of boiling water with a few drops of chloroform in a Maw's porcelain inhaler. However, a morphine lincture by night and a simple lozenge by day may be all that is required. But, to recapitulate: Ipecacuanha and hyoscyamus and the warm alkaline draught if there be much secondary bronchitis, sedative inhalations and acid mixtures

if there be old cavities to dry up, and stimulant inhalations and alkaline mixtures if secretion be not adequately removed, have each and all their place. Two other measures which relieve cough should not be forgotten—the vigorous painting with tincture of iodine on the chest wall over an old and irritating cavity, and friction with a stimulating liniment if much chronic pleurisy exist.

THE TREATMENT OF PROSTATIC HYPERTROPHY BY OPERATIONS PRACTISED UPON THE ADNEXA.

ALBARRAN and MOTZ (*Annales des Maladies des Organes Génito-Urinaires*, January, 1898), concluding a long article upon this subject, state that it is rational to admit *a priori* that castration diminishes hypertrophy of the prostate, especially when the enlargement is of the glandular form; that although the anatomico-pathological evidence is still inconclusive, clinical experience shows that there is a marked diminution of the enlargement of the prostate after castration. This diminution is due at first to relief of the congestion, later to true atrophy. This atrophy may be very slow and may not begin for six months or even more after operation, and may progress for more than two years. It may advance to such a state that the prostate may not be felt by rectal palpation. Certain portions of the enlarged organ may atrophy, and this process may affect the lobe which projects into the bladder. It is not possible to assert at present that all enlarged prostates will atrophy after castration, nor can it be said to what extent this atrophy will progress. It is even probable in certain cases there may be no atrophy. As to the effect of castration on the bladder in prostatics with dysuria without retention of urine and in whom the contractility of the bladder is preserved, patients suffering chiefly from frequency of micturition due to congestion of the prostate and bladder, the operation is followed by a rapid improvement of vesical symptoms, due undoubtedly to the relief of congestion. In prostatics suffering from retention of urine the results are truly remarkable. Of twenty cases operated on the operators state that three died, and in seventeen others spontaneous urination was rapidly reestablished. Four patients were able to urinate even a few hours after the operation. Eight others recovered this power even within the first week. In the slowest case spontaneous micturition occurred a month after operation. In prostatics suffering from chronic, incomplete retention of urine it was found that about fifty per cent. were entirely cured and the large majority of the remainder were greatly benefited. In prostatics with chronic complete retention the mortality of the operation was large, though even among these patients more than half were cured and most of the remainder were greatly improved.

The authors find that out of 124 cases the mortality was 14.5 per cent., due in the main to antecedent infection of the kidneys. Contrasting this mortality with that of the prostatics received in the Hospital Necker and not submitted to operation the authors find that the figures stand at fourteen per cent.—*i.e.*, 31 deaths in 220 cases. Operation is in itself not grave, and the mortality could be reduced to nothing by a proper selection of cases. In certain instances feebleness and inaptitude to work have been noted after operation. All these conditions are transitory. Certain psychic disturbances, varying from simple intellectual depression to delirium or even acute mania, have been observed, but these disturbances commonly appear in the first days following operation and finally disappear without leaving any trace. In contrast to this it is worthy of note that certain cases have exhibited a decided improvement in mental condition after operation.

The authors hold that the brilliant results obtained from castration in cases of enlarged prostate are such that they fail to justify not recommending it in the majority of cases. They would, however, reject this operation in cases of renal infection, in cases where the patient is extremely ill, and in cases which can be cured by simpler means. Thus in case of acute retention the treatment advocated by Guyon will be often successful. When this fails, or when an acute retention is constantly occurring and inevitably leading to chronic retention, an operation will be indicated. Cases of chronic retention may be complete or incomplete. The operation is indicated when methodical catheterization will not cure infection. The only contraindications to catheterization would be the existence of an intravesical projecting prostatic lobe which could be removed, which would justify prostatectomy. Neither the size or the amount of induration of the prostate, nor the loss of vesical contractility, should be considered as absolute contraindications. The time to establish a clinical distinction between fibrous and glandular forms of prostatic hypertrophy is futile. The comparison of

post-mortem findings and the results of clinical examination before death have shown that soft prostates were often essentially fibrous, whilst hard prostates were distinctly glandular. Indeed, the authors hold that as the evidence now stands castration probably also favorably affects fibrous prostates.

TREATMENT OF SENILE GANGRENE.

JONES (*Medical Chronicle*, January, 1898) lays down the following rules for the treatment of senile gangrene: (1) When the gangrene is limited to one or two toes and the patient's condition is satisfactory, the surgeon should be content with the expectant plan of treatment, taking precautions to lessen or prevent the effects of local septic infection. (2) When, however, the gangrene has reached the metatarsus, he should be prepared to perform the high operation—that is, amputation above the knee, or, in rare and favorable cases, through the knee-joint itself. The local treatment in limited forms of gangrene should consist in thorough cleansing of the foot and leg, free dusting of the immediate vicinity of the dead part with iodoform, and the application over this powder of sublimate or salicylic wool. The use of artificial heat in the form of poultices and fomentations must be discarded as not only ineffectual, but positively mischievous. Pain may be relieved by the internal administration of opium and the local application of a powder composed of boric acid, sublimate of bismuth, and hydrochlorate of morphine. A case is reported of amputation through the lower third of the thigh for gangrene of the leg in a man aged fifty-seven, who a fortnight after the operation was pronounced to be out of danger and making a very good recovery. —*British Medical Journal*, March 12, 1898.

THE SURGICAL TREATMENT OF CONGENITAL ANO-RECTAL IMPERFORATION CONSIDERED IN THE LIGHT OF MODERN OPERATIVE PROCEDURES.

MATAS (*American Journal of Obstetrics and Diseases of Women and Children*, December, 1897) contributes an article under this title, in which he reviews the various procedures that have been suggested with the view of overcoming intestinal obstruction caused by congenital ano-rectal imperforation. They may be grouped as follows:

A. Lower or infrapelvic operations.

I. Involving the soft parts only.

1. Puncture or incision, with dilatation of thin membranous septa or diaphragms which separate the anal cul-de-sac from the distended enteron above.

2. Typical perineal proctoplasty, with or without excision of the anal cul-de-sac, when this exists.

II. Perineal methods involving the pelvic skeleton, in order of severity.

1. Coccygeal displacement backward.

2. Median sacro-coccygotomy.

4. Parasacral incision.

5. Single osteoplastic sacro-coccygeal flap.

6. Median sacro-coccygotomy with bilateral osteoplastic flaps.

III. In all of these procedures the peritoneum may be purposely and freely opened for exploratory purposes.

B. Upper or anterior abdominal methods.

1. Primary median or lateral exploratory celiotomy, to recognize anatomical position of rectal ampulla and detach it from the peritoneum or mesentery, so as to create a perineal anus, without colostomy.

2. Secondary median or lateral exploratory celiotomy, with same object, after failure of previous perineal exploration.

3. Secondary inguinal colostomy, after failure of perineal exploration, with immediate attempt to restore continuity of rectal outlet to anus, after drainage of bowel, the rectal end being guided to the perineum by a probe introduced through colostomy orifice.

4. Primary colostomy without perineal exploration, with secondary attempt at restoration of continuity of bowel to perineal anus at another sitting.

5. Inguinal colostomy with permanent artificial anus in left iliac region, or cecotomy when the sigmoid flexure and colon are missing.

6. Enterotomy, when condition of patient is too critical to risk further exploration for rectum or colon; this can be applied successfully in sacral as well as in inguinal regions.

The conclusions that can be drawn from the detailed study of these methods the author states as follows:

1. The most prevalent varieties of congenital ano-rectal anomalies, especially the types of imperforation which most urgently call for surgical relief, are amenable to successful treatment by the perineal route. The cases that would justify primary colostomy are in the minority.

2. There is no external sign or physical criterion by which we may determine the

actual anatomical conditions before operation in the majority of cases. The presence or absence of the anus, the coexistence of pelvic (osseous) deformities, the evidence of fistulous communications with the ano-genital tract, are all suggestive but unreliable indications of the anatomical situation and relations of the rectal ampulla.

3. Neither can we depend upon the introduction of guides into the bladder or vagina to determine the presence or absence of the enteron or to indicate its relative position in the hollow of the sacrum. The use of the exploring aspirating needle is also fallacious and is often positively dangerous, owing to the risk of peritoneal contamination.

4. The direct causes of death in imperforate infants are: stercoremia, peritonitis, exhaustion, which rapidly set in from intestinal obstruction and stercoral stasis, and favor the absorption of toxins and the migration of intestinal micro-organisms. The influence of these causes in determining the results of operations is directly proportional to the length of time that has elapsed since birth; *ergo*, the earlier the operation is undertaken the better will be the result.

5. The resistance of the imperforate infant to traumatism is inversely proportional to the time that has elapsed since birth. The longer operative interference is delayed the less will be the resistance to shock. The experiences related in this paper emphasize this well established proposition and demonstrate that the new-born infant, when free from sepsis, compares most favorably with the adult in the capacity to resist traumatism. The experiences obtained in recent operations with sacrectomy and with the combined sacro-abdominal operations emphatically confirm the dicta of Bodenhammer (1860) and Giraldes (1865), who were foremost among the masters of the past generation to repudiate the tradition that the new-born infant is incapable of resisting severe traumatism.

6. The ideal result of operative interference in these cases is the restoration of the intestinal outlet in its normal situation or in the perineo-sacral region, with perfect functional (sphincteric) control.

7. The only way in which this result can be accomplished without subsequent evil effects is by proctoplasty performed in accordance with Amussat's rules.

8. In order to insure the best functional results (sphincteric) the operator should endeavor to avoid unnecessary injury to the sphincter and levator fibers by making strictly median incisions. When these muscles are absent or unavoidably injured, Gersuny's axial rotation of the bowel will probably prove the most effective preventive of incontinence.

9. The older methods of relief by puncture or incision, without proctoplasty, are no longer justifiable except in purely membranous obstructions, though even the vast majority of these require excision followed by proctoplasty.

Whenever there are dense strictures or diaphragms at the junction of the anus and rectum, it is indicated to resect the stricture or diaphragmatic portion and to suture the normal rectal mucosa to the anal margin.

10. The intraperitoneal exploration of the pelvis through a perineo-sacral opening, as suggested by Stromeyer and since practised deliberately by a number of operators, is not only a legitimate procedure, but it is one of the marked advances in the treatment of this class of cases.

11. Intraperitoneal exploration through the perineum should be systematically resorted to whenever a reasonable exploration of the subperitoneal tissues fails to reveal the rectal pouch.

12. The suggestions made to amplify the primary perineal incision by the removal of the coccyx (Amussat-Verneuil), excision of the sacrum (Kraske and his followers), by osteoplastic sacral flaps (Heinecke, Roux, *et al.*), and by parasacral incisions (Vincent, Zuckerkandi, etc.), are adjuncts of value both in facilitating the search for the enteron and in perfecting a proctoplasty without dangerous tension in the lower pelvic outlet.

13. It is preferable as the method of election, in every case in which a perineal incision is insufficient to reach the enteron, to adopt the coccygeo-sacral route by a free medial incision through the cartilaginous coccyx and sacrum, as practised by Vincent and advovated by Sieur and others. If more space is required a bilateral osteoplastic flap can be easily made, which will afford a larger entrance into the pelvis without permanently sacrificing the osseous framework.

14. The predisposition to rectal prolapse after sacrectomy should not be forgotten, and for this reason as little of the bone should be sacrificed as possible.

15. Primary exploratory laparotomies, with the view of identifying the anatomical relations of the enteron and guiding the bowel to the perineum from above, are not indicated as a rule; and thus far, at least in the few

cases in which it has been tried, has not been followed by encouraging results, mainly, no doubt, because of the distended condition of the bowels and the crowding of the upper pelvic strait upon the distended sigmoid and the rectal cul-de-sac, which compels enterotomy and a consequent greater risk of peritonitis before the rectum can be guided to the perineal level.

16. Since the advent of the perineo-sacral route, with or without intrapelvic exploration, the great majority of ano-rectal imperforations, irrespective of their anatomical peculiarities, are amenable to successful treatment by the formation of an artificial anus in the perineo-sacral region.

17. The perineal anus can be formed by attaching the terminal portion of the colon (rudimentary rectum) to the perineal or perineo-sacral wound, which is the ideal result; but in emergencies it is justifiable to attach the small bowel to the perineo-sacral wound.

18. The mortality of colotomy, in the statistics thus far recorded (whether primary or secondary), is greater than that of perineal or even sacral proctoplasty.

19. (*a*) Inguinal colotomy as a primary procedure is indicated only when the infant is seen in an exhausted condition at a late hour, days after its birth, when stercoremia, peritonitis and exhaustion are present, and life is ebbing fast. Then some sacrifice of ultimate benefits must be made for the sake of time. (*b*) In every other condition the perineal incision should initiate the primary effort at relief.

20. Median or lateral exploratory laparotomy is indicated when, after the intraperitoneal exploration through a perineo-sacral incision, it is evident that the terminal cul-de-sac of the rectum or any portion of the colon cannot be brought down to the pelvic outlet and only the small intestine is available for proctoplasty. Under such circumstances, if the condition of the patient is good, it is justifiable to perform exploratory laparotomy to identify the lowest portion of the bowel, if only to avoid the possibility of a physiological error. The aim of the operator should then be to guide the colon, the cæcum, or the most available loop of ileum to the perineo-sacral wound, where it can be drained permanently with greater safety.

21. If for any reason the operator should prefer to make an iliac colostomy (Littre), he should always consider the possibility of restoring the anal outlet of the rectum by a secondary operation on the lines suggested by Chassaignac, Lannelongue, and others.

22. The perineo-sacral anus, if properly performed, is almost certain to be voluntarily controlled in the course of time; the iliac anus is far more uncertain in this respect.

ABORTION WITH SEPTICEMIA; TREATMENT BY ANTISTREPTOCOCCIC SERUM; RECOVERY.

CAMPBELL (*British Medical Journal*, Jan. 29, 1898) records a case of puerperal septicemia successfully treated by antistreptococcic serum. The highest temperature reached was 104° F.; pulse 135. One injection of ten cubic centimeters of the serum was practised. The temperature almost immediately fell and the symptoms subsided by lysis.

THE FIRST COMPLETE REMOVAL OF THE HUMAN STOMACH IN AMERICA; PROBABLY ALSO THE FIRST TOTAL GASTRECTOMY IN THE WORLD.

HEMMETER (*Medical Record*, March 19, 1898) reports the first complete removal of the human stomach in America; probably, also, the first total gastrectomy in the world. He notes that Schlatter in reporting his unique cases of complete removal of the stomach asserts that the recorded cases of gastric excision are instances of partial, chiefly pyloric, removal of the stomach. Schlatter narrates the case of Langenbuch in which seven-eighths of the stomach was removed. Recovery followed. This, as well as Schuchardt's case in which only a narrow strip of the stomach near the cardia was left, can from the functional standpoint be regarded as a total excision. Schuchardt's patient lived two and a half years and apparently enjoyed perfect health. Ewald referred to the abolition of the human stomach in which about an inch of the cardiac end had been excised. The patient died three days afterward from hemorrhage. Perhaps the advance in surgical technique of Schlatter's successful case is that he has shown a successful way of union between the esophagus and jejunum. The value of this new operation consists of and is limited to the advance represented by this simplification. The second advantage which medical science might gain from the operation—*i.e.*, the contributions to the knowledge of digestion in general and of metabolism—is realized by studies and operations made previous to esophageal enterostomy.

The main object of Hemmeter's contribution is to call attention to the fact that the first total ablation or extirpation of the human stomach was executed in America long before Dr. Schlatter's operation, or long before that of Dr. Bernays in this country. It was performed by Dr. Connor, of Cincinnati, and is reported in the *Centralblatt für Chirurgie* for 1885. This surgeon attempted to unite the esophagus with the duodenum without attempting the esophago-enterostomy which was later on successfully carried out by Schlatter. The patient lived thirty-six hours. Schlatter's operation was performed September 6, 1897. The duration of life after esophago-enterostomy should on the average be as favorable as after pyloric resection, because the latter is an equally serious operation. Schlatter does not state how long his operation required, but he remarks that his esophageal and duodenal clamps when removed had remained in position for over two hours. The consensus of experience points unmistakably to the conclusion that in malignant disease of the stomach gastro-enterostomy gives the best results obtainable whenever there are secondary metastases or adhesions. It is not necessary to give predigested foods, as the intestine is capable of digesting a certain amount of food to maintain the nitrogen equilibrium. A case like Schlatter's will probably not occur once in a thousand presented for operation, and the patient has not lived long enough to disprove the presence of minute metastases, impossible to discover even after laparotomy.

CONSERVATION OF THE OVARY AFTER HYSTERECTOMY AND HYSTERO-MYOMECTOMY.

HOWARD KELLY (*British Medical Journal*, Jan. 29, 1898) states that Sir Spencer Wells struck the first blow in favor of conservatism when he reported the first one thousand cases of ovariotomy in which the ovariotomy was unilateral—that is, one ovary was left—in 228 women who survived the operation and were under forty years of age; 120 of the 228 women bore 230 children, very nearly an average of two children to each woman. Of the women who were over forty years of age there were four who bore children. There is a growing conviction that the ovary belongs to the same group of organs as the thyroid, thymus, and pineal glands, and that in addition to its function of ovulation it secretes a substance which is absorbed and consumed in the animal economy, and which is necessary to it in retaining its physiological balance.

The ill effects of castration, whether the organs are diseased or not, are often disastrous. Two natural lines of experiment have been tried. It has been shown that the ovaries may be completely severed from their normal surroundings and successfully transplanted either to a part of the broad ligament or the muscles of the abdominal wall. The second line of experimental substitution of the lost ovarian tissue is that of feeding to the women deprived of ovaries one of the organic juices. The results reported by Chrobak were extremely encouraging.

Stehman also reports having procured great amelioration of the symptoms incident to the induced climacteric by the administration of thyroid tablets. A consideration of physiological facts should lead the gynecologist to practise the utmost conservatism in treating the essential organs of sex. Since the spring of 1895 Kelly has invariably made an effort to retain the ovaries, even in those cases in which it has been necessary to remove the uterine tubes and the uterus; the result of this has been a remarkable diminution, and in some cases complete absence, of the distressing nervous symptoms of the menopause.

He reports twenty cases in which the uterus was removed for myomatous or fibroid tumors. In general no hospital cases have been included in a list of later date than December, 1896, although eighteen have been operated on since that time. In every case, of course, the uterus was removed; in eleven instances one ovary and in six instances both, and in ten both uterine tubes. Three of the cases could not be traced. Of the remainder the operation in not a single instance gave rise to any of the aggravating symptoms so commonly associated with the artificially induced menopause. The utmost discomforts experienced were slight flushes; and in nine cases absolutely no symptoms of a menopause are noted. One patient in her thirties, after experiencing no symptoms of the menopause after cessation of the menstruation, began two years after the operation, and fully from four to six years earlier than natural, to pass through the various nervous phenomena of a menopause of ordinary character.

The operation is easy if the tubes are left and the operation is begun by tying off the broad ligament at the uterine cornu, including the isthmus of the tube and the utero-ovarian ligament in the first tie, tying the broad ligament next, and then exposing

the base of the broad ligament, ligating the uterine vessels, amputating the uterus at the vaginal junction, clamping the uterine vessels of the opposite side, and then pulling the uterus up and out, and ligating the round ligament, the tube, and the ovary at the opposite cornu.

Kelly has not gone to the length of attempting to retain inflamed or diseased tubes and ovaries, which can be much more quickly and safely removed in conjunction with the uterus.

A CASE OF PERFORATING GASTRIC ULCER; LAPAROTOMY; RECOVERY.

In line with several articles on operation for perforating gastric ulcer, the following interesting case is detailed. The patient was under the care of Dr. S. F. Toogood (*The Lancet*, Jan. 15, 1898).

It is probable that the most important factor influencing the result of a laparotomy for a perforated gastric ulcer is the length of time which has elapsed since the perforation. In no recorded case has recovery ensued if the operation has been postponed for more than twenty-four hours, unless extensive peritoneal adhesions existed prior to the perforation. In the following case the operation took place about fourteen hours after the rupture. The sooner the operation is performed the better, though it has been considered advisable by some to wait until the reaction has replaced the first shock of the perforation.

A servant aged twenty-one years was admitted into the Lewisham Infirmary about 1.30 A.M. on September 17, 1897, with the history that she had been suffering from gastric ulcer for some months past and had been attended by Mr. Leonard Stokes. On the 16th, soon after noon, she was seized with sudden acute pain in the region of the stomach, and she fainted. Mr. Stokes promptly diagnosed the rupture of the ulcer, and as soon as the necessary arrangements were completed she was conveyed to the infirmary. On admission she was suffering severely from collapse; her pulse was 130 and very feeble, and the respirations were 34, almost entirely thoracic, and shallow. She complained of intense pain over the whole abdomen, the wall of which was rather distended and was kept very rigid. Percussion revealed that the liver dulness had disappeared in front. Chloroform was administered and Dr. Toogood opened the abdominal cavity by an incision three inches long between the xiphoid cartilage and the umbilicus; there was a considerable amount of free gas in the cavity. The stomach was seen lying quite collapsed and was found attached by a ring of adhesions to the anterior abdominal wall; a portion of these adhesions had broken down, and the forefinger could easily be passed into the stomach. This attachment necessitated the original incision being continued for about three inches along the left costal margin, when the site of the ulcer was thoroughly exposed. The adhesions were divided with care, but no vessels required ligature. The ulcer appeared as a punched-out hole of the size of a sixpence.

The condition of the patient was so alarming that it was decided not to pare away the thickened edges of the ulcer; accordingly the gap was drawn together by twelve Lembert sutures, using oo Chinese twist silk and a very fine milliner's needle. Nearly a pint of dark fluid mingled with débris of food was sponged out of the abdomen, and several gallons of sterilized water at a temperature of 110° F. were used in washing out the peritoneum. Special attention was paid to the liver and the interstices between it and the diaphragm, which as well as Douglas' pouch were well sponged out, and a thick strand of cyanide gauze was passed on each side well down to the posterior edge of the liver. The incision was now closed by silkworm-gut sutures except at the upper angle, where the gauze drains were protruding. The wound was dressed on the same day at 6 P.M., when the gauze drains were removed; that from the right side, being almost dry, was not reinserted, but that on the left was replaced by a Keith's glass tube, having a cyanide gauze wick in its center. During the next forty-eight hours the wound was dressed four times, a good deal of cloudy serum collecting in the tube; but this having ceased, the tube was removed sixty hours after the operation.

Immediately after the operation the temperature sank to 99.4°, but eighteen hours afterward it had risen to 103.6°. However, it again sank, and after a few unimportant fluctuations it gradually became normal and remained so after the fifth day. The pulse improved with the temperature. Three minims of morphine injected hypodermically with one-fiftieth of a grain of strychnine were given every twelve hours for three days. A teaspoonful of hot water was allowed by the mouth every two hours.

Dr. Toogood has found that with a long

tube and with great care and slowness a nutrient enema measuring a full pint may be successfully given, and this amount of peptonized milk with peptone of beef was administered every six hours, while the bowel was thoroughly washed out once in the twenty-four hours with a simple enema.

Seven days after the operation fluid food was commenced by the mouth, one ounce of peptonized milk flavored with Benger's or Mellin's food being given every four hours. After a lapse of two days this amount was given every two hours, and this was gradually increased until in three weeks' time five ounces every two hours was being taken. Twenty-five days after admission the nutrient enemata were discontinued and arrowroot was given by the mouth; after the thirty-first day three ounces of pounded chicken was taken daily; and after the lapse of another week the patient was able to take an ordinary light diet.

The wound healed by first intention with the exception of the track caused by the tube, which granulated slowly, but it was soundly closed in three weeks. About the tenth day a good deal of abdominal pain was complained of which caused much perplexity, until a too sympathetic fellow patient was detected administering bread and butter. The pain ceased with the sympathizer's removal. The patient was discharged plump, ruddy and well on November 20.

TUBAL PREGNANCY.

CHASE in the *Brooklyn Medical Journal* for February, 1898, contributes an article on this subject and advocates the following treatment:

If the surgeon or accoucheur should be so fortunate as to detect a case of tubal pregnancy before primary rupture, no time should be lost in relieving the woman of danger involved in rupture. But one of two methods can be pursued after rupture—either reliance on the *vis medicatrix naturæ*, or the surgical art. Removal by excising the tube by laparotomy is the plain and unmistakable indication, and nothing short of this adequately meets the gravity of the situation. The hemorrhage must be controlled.

Should the ovum chance to die before primary rupture, the contents, together with effused blood, may absorb, or suppuration with its consequences may follow, in which event knowledge of the fact might not be disclosed until the operation. If the case is seen at or immediately subsequent to time of primary rupture, the same rule holds good. By reasoning that the hemorrhage may cease spontaneously and thus deferring operative interference, the golden opportunity of saving a life may be lost. If some time has elapsed since the rupture, then the necessity for interference may not be imperative, and opportunity may be had to watch the development of the case to determine whether the mass enlarges, diminishes, or remains stationary—and from such data the rule of action will be formulated, according as the life of the ovum is or is not retained.

Surgical experience generally, and here in particular, confirms the truth that the risk of operation is far less hazardous than the continuation of the hemorrhage, which may not cease until life is extinct.

In operation for primary tubal rupture the abdomen should be opened from above, the bleeding arrested by ligation of open blood-vessels, the placenta, ovum and clots removed. Operation *per vaginam* offers inadequate space to effectively control bleeding vessels, and at the same time to be certain of having removed everything requiring removal. If the rupture is in the distal portion of the tube, its removal will include the sac and contents, unless new attachments have formed between it and some portion of the pelvic cavity immediately contiguous. If it is intraligamentous the new formation may be so perfectly removed and the control of the hemorrhage so complete as to warrant the closing of the broad ligament opening by running catgut suture. If not, one of two methods is admissible—either stitch the walls of the sac to abdominal opening, packing the same with gauze enclosed within a Mikulicz bag, or better still, make an opening from the broad ligament cavity into the vagina, either laterally or through Douglas' cul-de-sac, according to its location. Pack the sac with gauze, first carrying the end into the vagina, and closing the abdominal wound. The advantages of downward drainage, when possible, are too obvious to require comment. If for any reason pelvic drainage is needful—as might happen from infection—it should be downward by gauze into the vagina. For this reason the vagina should always be made sterile before commencing the operation.

If recent, the clots are best removed by free irrigation with normal salt solution. If, however, the clots have been within the pelvic cavity for several days, and are attached to the pelvic viscera, only gentle measures

should be used for the detachment, for the risk of tearing the intestines more than counterbalances any disadvantages from their presence. The peritoneum in most cases will take care of blood-clots not infected.

If death of the embryo follows rupture, and effused blood remains either in the pelvic cavity or imprisoned with the broad ligament, the subsequent behavior of these cases is like that of pelvic hematoma. Under such conditions, particularly in the extra-pelvic variety, vaginal incision may be, and often is, the better method of approach. Then the blood and débris may be removed, and efficient drainage established without risk of infecting the peritoneal cavity.

Every facility for thorough and rapid work should be at hand in these operations, and for this reason, other things being equal, the best results are likely to attend the work in a well equipped hospital. The necessity, oftentimes, of placing the patient during the operation in the Trendelenburg posture is imperative and without it failure would ensue. It is highly essential for the patient's safety, in presence of exhausting hemorrhage and shock, that sparteine, strychnine, digitalin, or nitroglycerin be administered hypodermically according to the existing indications. So, too, high rectal enemas of hot normal salt solution may be advantageously employed with a view of augmenting the fluid in the circulation. If this is unavailing, intracellular or intravenous administrations of normal salt solution are the remedies *par excellence.*

REMARKS ON THE SURGERY OF THE VAS DEFERENS RELATIVE TO SOME URINARY DISORDERS.

The following interesting and instructive statements are made by REGINALD HARRISON (*The Lancet*, Jan. 8, 1898):

Judging from various communications that have recently appeared both in British and foreign journals, an increased experience tends to confirm the favorable view taken of division or resection of the vas deferens in certain urinary disorders in the author's Bradshaw Lecture. He proposes supplementing these remarks on this important subject:

In speaking of partial resection of the vasa deferentia relative to the enlarged prostate, it must not be supposed that either it or any other proceeding will meet all forms and degrees of this affection, or that its results will be uniform. A moment's consideration at once renders this intelligible. There is a tendency as age advances and when the meridian is passed towards a fibrotic degeneration of the testes and prostate, in which the latter gradually ceases to be glandular and becomes transformed more or less into masses of unstriped muscular fiber and connective tissue. When this condition is far advanced the part is only amenable to that kind of treatment which applies equally to other fibrous growths wherever they are situated within the body. Castration and vasectomy may both alike fail under these circumstances, and some form either of prostatectomy or prostatotomy, should the necessity arise, is more likely to be successful and permanent. Similarly in carcinoma of the prostate we have a condition where no good results are to be expected, though it must be said that in one or two instances, where division of the vasa was practised and the growth eventually turned out to be a cancer, it does not appear that any harm was done. Excluding, however, such exceptional cases as these, which we are now learning to discriminate, and allowing for the degree of fibrotic degeneration that the parts undergo, there can be no doubt that in vasectomy we have a valuable and fairly certain means of removing the distress that a hypertrophied prostate in the usual acceptation of the term occasions. The weight of evidence in reference to this, the author thinks, is now sufficiently conclusive and may be safely acted upon. Further, it tends to show that if vasectomy fails castration is not likely to do otherwise, though the selection of the former does not necessarily preclude a subsequent trial of the latter.

There can be no doubt that castration is a serious undertaking in the case of many persons of advanced years enfeebled by illness as compared with vasectomy, and the risk connected with it is not inconsiderable. On the other hand, if vasectomy is performed under certain conditions it is not open to these objections. As prominent among the latter the author would again urge that though a resection of a part of the seminal ducts is a minor proceeding, it is better not to operate upon both canals simultaneously, but on two separate occasions with a short interval between. That physiological effects of an active kind not limited to the urinary organs sometimes follow upon the simultaneous removal of the testes, and less rarely on the simultaneous resection of the vasa, there can from recorded cases be no doubt. In some they have taken the form of cerebral

disturbance and in others of mental decay, which have marred the good effects of any structural changes in the prostate which have also followed. The author has neither seen nor heard of such results as these being observed where both vasa were not divided at the same time. Excision of these ducts is, however, a slower mode of effecting prostatic shrinkage than castration, as it entails the induction of a double process of atrophy —that is to say, by means of an atrophy following upon a preceding one. In this lies, he believes, in a great measure its safety. Whilst improvement usually commences at once on the completion of the operation and steadily advances, it is sometimes several weeks and even months before the full amount of benefit is reached. In a recorded case of suprapubic fistula following an operation where double vasectomy was performed for the purpose of causing a diminution in the size of the prostate and the restoration of the natural passage for the urine, over four months elapsed before the fistulous opening quite closed and urination was again normal. The patient was sixty-six years of age and made a complete recovery, though no further treatment was employed. Other instances have come under notice where the maximum amount of good was not reached for even longer periods than this.

In the following instance progress was slow, but it would have been impossible to have brought about so much comfort with a prospect of more by any other means. In November, 1895, the author saw a man, aged seventy years, who, in addition to glycosuria, was suffering from a large prostate with much obstruction and residual urine. In spite of treatment with the catheter and other means his symptoms increased. Early last year (1897) the frequent calls to attempt micturition and the great pain and difficulty in using the catheter and the general distress induced the author to advise vasectomy. The first vas was divided on April 13 and the second on May 11; from these dates he steadily but slowly improved. In a letter to the author (December) he writes: "I certainly am very much better than I was, and so long as I am quiet and able to carry out my regular treatment I get on very comfortably." He uses his catheter five or six times in the twenty-four hours, and can now void some urine voluntarily. The author has good reason for believing that he will still further improve. As the fibrotic condition of the parts was much advanced at the time of operation, it would have been better if it had been performed earlier.

And this brings the author to remark that, having regard to the time often occupied by the prostate before it assumes a form or a size calculated to seriously obstruct micturition so as to necessitate operative interference, the sudden and active induction of its atrophy may be open to objection for reasons which may possibly be explanatory of what he has referred to as more frequently following upon simultaneous removal of both testes. We are only, as it were, beginning to study in view of their application for therapeutical purposes the physiological effects of certain changes produced by the addition to, or withdrawal from, the body of certain organized parts or materials. In the case of the former we have some evidence of this in effects produced by the introduction of toxins and animal alkaloids, while the latter may be demonstrated as following removal of the thyroid gland. On all grounds, therefore, the author prefers to bring about the changes desired in the prostate in the way he has always advocated. The cases in which benefit has followed vasectomy have been those where the symptoms were induced directly or indirectly by senile enlargement of the prostate gland. Amongst these we may include very frequent and painful micturition, difficulty with and frequent use of the catheter with much spasm and hemorrhage, and the more severe forms of cystitis arising from obstructed micturition. In some of these instances the division of a single tube has proved efficient. Further, in certain recurring cases of stone depending on sacculation or pouching of the bladder complicating prostatic hypertrophy, the induction of atrophy of the latter has afforded some excellent results. The probable explanation is due in all these examples to what the enlarged gland undergoes, and consequently to the greater freedom with which urine is passed or the catheter is introduced. In all cases where vasectomy is practised, before both tubes are divided it is well to ascertain that the bladder is quite free from stone. He has met with more than one instance where a small calculus was passed after a vasectomy which had previously been undetected by a sound. Probably it had been concealed or pouched by the large prostate, and had escaped spontaneously as the latter decreased in size.

Further, the enlarged prostate is often a serious detriment to the kidneys by establishing a back pressure of the urine, which can

be most injurious to these organs. He refers to that class of cases were the urine excreted under pressure is constantly of a low specific gravity. Here, as Sir James Paget observed, "there will be danger from the most gentle catheterism." The author has seen low densities in urine rise steadily to normal and remain so, after the tension has been taken off micturition by the induction of atrophy of the prostate. It is not unlikely that we may find in vasectomy another means for removing intrarenal tension. It must be remembered that it sometimes takes but very little to render a prostate obstructive. Sir Henry Thompson pointed this out in connection with his important studies on the pathology of this gland. The author has seen enough to convince him that a small amount of shrinkage, provided it takes place in or indirectly affects the right spot, makes all the difference as to whether a man leads a life of comfort or not.

It is not unlikely that this operation will be extended to other disorders of the urinary organs. Though the normal function of these ducts is that of conveying the seminal fluid from the testes to the vesicles and prostatic urethra, they are equally capable of transmitting micro-organisms in both upward and downward directions. In this sense they may therefore be regarded as distributors of disease. Some years ago, soon after he had published a short article on division of the vas deferens relative to prostatic hypertrophy, he saw a delicate young man with a strong tuberculous family history with a nodule in his left testicle remaining after an acute gonorrhea. This nodule was deemed to be tuberculous or likely to become so. The question then raised had reference more especially to the removal of this by operation on the ground of its suspicious nature. The urine was healthy, and so was the opposite testicle and its tubes. Nor was he able to discover any evidence of deposit, so far as the finger could reach, either in the vas or the prostate. The patient, who had had some medical education, was anxious that either the nodule or the testis should be removed. The author did not feel disposed to recommend either course. Having regard to the fact that the disease appeared limited to the nodule and that any infection would probably pass along the canal of the vas deferens, he proposed to excise a portion of the latter. This was done, and the wound healed in a few days. A year afterwards it was found that the testis and nodule had both completely atrophied, and no signs of tuberculous infection could be detected. The patient's health and sexual powers remained unimpaired.

The second group of cases of transference of infection through these ducts may be illustrated by the inflammations that take place of the testes and tubes occurring in connection with some cases of prostatic hypertrophy where catheterism is necessary and often difficult. This is a complication which, when frequently repeated, seriously adds to the gravity and pain of these disorders. Early in the year 1896 the author saw a man approaching seventy years of age, otherwise in good health, who, in addition to much prostatitis, repeatedly suffered from most painful epididymitis in one or both organs, though sexual power had ceased for some years. He was dependent on the catheter. These attacks had been going on for some months, almost entirely confining him to bed and preventing him attending to his business. The author divided his vasa for him with great relief so far as his prostatic symptoms generally were concerned, and since this was done he has had no further trouble with his testicles.

The author has tried various methods for resecting the vasa. The simplest appears to consist in rendering the vas superficial by manipulation of the scrotum and making a small incision over it. It can then be easily seized with a Spencer Wells' clamp forceps and brought to the surface, where it is practically isolated by a little scraping and a blunt hook or aneurism needle passed beneath it. A loop is included by a silk ligature and the free portion removed by scissors. To ligature the duct is insufficient, it being necessary to resect a portion of it. After the loop has been removed the stump is returned with the ligature cut short, and the little wound is then closed with a suture or collodion. Union usually takes place in the course of a day or two. In this way the operation can be performed quickly, and almost bloodlessly.

In concluding these remarks the author need hardly suggest that patients should invariably be made to understand, whatever their ages may be, that though division of one duct does not interfere with the function of generation, the subsequent section of the second duct entirely and permanently extinguishes any sexual power that the individual may have previously possessed. The operation may therefore be said to be restricted to that

period of life and to coexisting circumstances when the general function relative to the urinary disability is ceasing or has ceased to be a matter for consideration. The cases must be extremly rare where in earlier years the damage occasioned by the hopeless loss of all control over this function calls for such measures as vasectomy would undoubtedly supply. Further, he would repeat in connection with the latter operation, as well as with other procedures of a like nature, that they are only applicable to grave varieties of prostatic disease and other complications arising out of them. When we recognize how many elderly men carry on long and useful lives who are more or less dependent upon the aid their catheter affords, it is hardly necessary to say that such measures can only apply to exceptions and not to the rules. The latter are already adequately provided for, whilst in the interests of the former all proved methods either of cure or of relief must receive our careful and unbiased consideration.

LEFT SUBCLAVIO-AXILLARY TRAUMATIC ANEURISM; LIGATION OF SUBCLAVIAN ARTERY IN ITS SECOND PART; RECOVERY, WITH PERFECT USE OF ARM.

CROLY (*Medical Press and Circular*, Feb. 16, 1898) reports a successful case of ligation of the subclavian artery in its second part. The patient was wounded by a stab in 1893. In 1895 he exhibited a large, pulsating tumor occupying the subclavicular and axillary space. The upper extremity was wasted. In December, 1895, operation was performed. A vertical incision was made along the outer border of the sterno-mastoid muscle, and a horizontal incision was carried parallel to the clavicle and almost its complete length. The entire origin of the sterno-mastoid was divided; the tumor was found occupying the third portion of the subclavian artery. The outer border of the anterior scalene, which had been turned backward by the pressure of the tumor, was raised and divided by a pair of blunt scissors. The operator scraped through the deep fascia and exposed about a quarter of an inch of the subclavian. The sheath was incised, and an especially long, deeply curved aneurism needle with a large eye was passed about the artery from below and within, upwards and slightly outwards. This needle was armed with a ligature made of ox-peritoneum and was tied on the side next to the heart by the first hitch of the reef-knot. The operator merely approximated the internal coats, as suggested by Scarpa, and used no violence whatever. The second ligature was applied in the same manner, and finally the four ends were drawn as a single ligature, holding two in each hand, and tied in the second hitch of the reef-knot. The advantage incident to using two ligatures is that a greater extent of the intima of opposite sides is brought into contact. The wound was washed out with warm carbolic lotion, and the edges closed with gut sutures. The wound closed without complication and the patient recovered completely. Croly quotes from literature a number of other interesting cases.

INFLATED RUBBER CYLINDERS FOR CIRCULAR SUTURE OF THE INTESTINE

HALSTED (*Bulletin of the Johns Hopkins Hospital*, February, 1898) states that it is bad surgery to employ stitches which enter the lumen of the intestine. It is impossible to suture the serosa alone. It is impossible to suture unfailingly the serosa and muscularis alone, unless one is familiar with the resistance offered to the needle by the submucous coat of the intestine; furthermore, stitches which include nothing but the serous and muscular coats tear out easily and are not to be trusted.

Each stitch should include a bit of the submucosa. A fine thread of this coat is much stronger than a considerable shred of the entire thickness of the serosa and muscularis. It is not difficult to familiarize one's self with the resistance offered to the needle by the submucosa, and with a very little practise one learns to include a bit of this coat in each stitch.

The mattress stitches are to be preferred to Lembert's, because one row of them is sufficient, because they tear out less easily, oppose larger surfaces and more evenly, and constrict the tissues less than Lembert stitches do.

In circular suture of the intestine, only one row of stitches should be taken, and the entire row should be applied before a single stitch is tied; otherwise it is impossible to preserve a straight line in the taking of the stitches, and the stitches taken last may be much farther from the cut edge than those taken first, and the flange turned in may be so broad as to occlude the intestine's lumen.

Before the intestine is resected, its blood-

supply should be most carefully studied, with reference not only to the placing of ligatures, but also of the stitches, and the stitches should be so placed that the circulation, up to the very edge of the parts to be sewed, shall be as perfect as possible.

The results obtained by adhering strictly to the foregoing rules have been so perfect that the author has employed no other method in his practise.

Halsted holds that license to practise general surgery should be withheld from those who have not practised on animals the operations for circular suture of the intestine and intestinal anastomosis. As a case in point he recalls an instance in which a surgeon asked his assistance in performing a circular suture of the intestine. He readily consented to practise the operation upon dogs. At first his dogs all died. He finally succeeded in saving more than fifty per cent. of the dogs operated upon. The operation on his patient required five hours, but was successful.

Experts in intestinal surgery, almost without exception, prefer to perform circular suture of the intestine without the use of mechanical devices.

Halsted holds that his own operation, previously described, is by no means satisfactory, notwithstanding the very perfect results which attended its employment in the hands of others as well as himself. The disadvantages of his original method and of all similar methods were as follows:

They required about twenty minutes to perform the operation.

One or two assistants at the wound were indispensable.

Clamps or the fingers of an additional assistant were necessary to prevent the escape of intestinal contents.

The vermicular action of the intestine (particularly in dogs) was a great annoyance, for it prevented an accurate disposition of the stitches. Stitches applied as near together as possible during the intestinal contraction might be too far apart in the stage of relaxation.

If the pieces of intestine to be united were not of the same size their adjustment might be very difficult.

The rolling out of the cut edges of the intestine prevented in places recognition of the precise edges, and hence the operator might not know how far from the edge he was placing his stitches nor just how much intestine he was turning in.

The handling of the intestine by assistants who act as clamps or who hold parts in place during the stitching must be injurious to the tissues and predispose to infection.

Every one of these objections is disposed of by the employment of the rubber cylinders.

The diameter of rubber cylinders and their application are illustrated by a series of admirable drawings; the first of these shows the application of the presection stitches. It is immaterial whether these stitches perforate the wall of the intestine or not, for they are eventually cast off into the bowel. The intestine should be carefully divided with scissors as close to the presection stitches as possible. No visible blood-vessels are occluded by these stitches.

For the human small intestine the diameter of the cylinder is from 1¼ to 1½ inches. The fourth figure shows two of the presection stitches tied, and the collapsed rubber cylinder is being pushed into the bowel with a forceps. The next figure shows three presection stitches tied. They are supplemented by a fourth stitch, which is removed later to facilitate the withdrawal of the bag. The bag has been inflated with air by the syringe. Then follow figures showing the insertion of the mattress or permanent stitches. The first of these and the most important perforates the mesentery twice and picks up the submucosa four times. It insures the proper turning in of the mesenteric border. From ten to twelve mattress sutures suffice in operations upon the human subject; the first stitch to be tied down is that which secures the mesenteric border. The advantages of the inflated rubber cylinder in circular suture of the intestine are as follows:

The vermicular action of the bowel is arrested over the bag, and the stitches can, consequently, be placed at regular and proper intervals.

The distended bag unrolls and spreads out to a fine edge the everted raw edge of the intestine and enables the operator to place the stitches with great precision at the desired distance from this edge.

If distended intestine is to be sutured to collapsed intestine (in strangulated hernia, ileus, etc.), or intestine of larger to intestine of smaller lumen (jejunum to ileum, duodenum to esophageal end of the stomach, etc.), the smaller may easily be expanded to fit the larger piece.

Very little handling of the intestine itself by the operator is necessary. The tube from bag to syringe is used as a handle to rotate and elevate the parts to be united.

The cylinder takes the place of at least two assistants. The operation could readily be performed without an assistant.

The entire operation, exclusive of suture of the abdominal wall, can be performed on dogs in five or six minutes and probably in less time.

PLASTIC OPERATION FOR SADDLE-NOSE.

WARBASSE in the *Brooklyn Medical Journal* for February, 1898, contributes a paper with this title in which he states that the introduction of foreign bodies for prothetic purposes into the tissues, and the securing of the healing-in of the same, still remains a surgical procedure of unfixed utility. That this can be accomplished has long since been demonstrated. The material best adapted to be used for this purpose and the permanency of such operations are the questions yet to be settled.

An operation which the author performed for the relief of saddle-nose is as follows: An incision is begun at the muco-cutaneous junction about half-way down the ala of the nose, and carried upward along the margin of the nostril, across the septum, and down on the opposite side to a corresponding point. This incision is made just within the nostril. The skin is then dissected up over the whole extent of the external nose. This dissection is carried on with a narrow knife and sharp-pointed scissors. The skin is thus dissected free from the alæ and the cartilaginous tip of the nose, and laterally out upon the superior maxillary bone and its nasal process to the canthi of the eyes, and above as far as the frontal bone. The chief bleeding comes from the vessels of the septum and the branches of the angular artery. This is controlled by twisting the bleeding points, by the application of pressure, and by packing the wound with hot compresses. This procedure, over so great an extent and through so narrow an opening, must needs be very tedious. Complete hemostasis having been secured, a bridge of hard rubber is inserted, and the wound closed by a subcuticular suture of silk. Over the whole is then placed a dry compress, which is held in place by adhesive straps, and which is intended to make gentle pressure and act as a splint.

The patient upon whom the author operated was a man forty-two years of age, who suffered since childhood with an aggravated deformity of the nose, a sequel of scarlet fever. All that remained of the nose was the cartilaginous tip, which had also been retracted by the sinking in of the bridge of the nose, so that the nostrils looked upward more than normal. The bridge was made of hard rubber, concavo-convex in form. The two wings of this bridge were widely fenestrated, and when in place rested upon the nasal process and facial surface of the superior maxillary bone.

At the end of forty-eight hours all dressings were removed, and the suture line painted with collodion. The traumatic edema had almost disappeared by the end of ten days, and at the end of two weeks it had quite subsided. There was never any discharge from the wound. The subcuticular sutures were drawn out at the end of ten days. It is now twelve months since the operation, and the patient has suffered no irritation whatever from the presence of this bridge beneath the skin. The nose presents a normal appearance.

MODIFICATION OF SCHEDE'S THORACOPLASTY IN CASES OF EMPYEMA.

SUDECK (*Deutsche Zeitschrift für Chirurgie*, 47 Bd., 2 and 3 Heft, 1898) proposes what he considers a serviceable modification of Schede's operation of thoracoplasty. Schede's operation he describes as follows: An incision is to be made beginning at the outer border of the pectoralis major at the level of the fourth rib, curved downward to the lower margin of the pleural cavity, then upward, outward and backward to the middle of the scapula, which is thrust out of the way by turning the arm upward over the breast. This flap is raised and the whole chest wall, including the second rib, is resected. The remaining cavity is filled in as far as possible by a musculo-cutaneous flap. The greatest difficulty is experienced in so arranging this that the apex of the pleural space is carried in. There often results a persistent fistula.

This operation is usually performed on extremely weak tuberculous individuals. It is therefore important that the operation should be as simple as possible, and it would seem advisable to complete it at several sittings.

Sudeck's method is as follows: The first incision begins at the cartilaginous insertion of the fourth rib and runs horizontally outward and backward across the scapula as far as the vertebral arch. Parallel with this incision a second is made on a level with the floor of the suppurating cavity. These two

incisions are connected in the axillary line by a vertical cut making the figure H. The two flaps on the bar of the H are then turned forward and backward. The ribs are resected from the tenth to the third inclusive, and the thoracic walls, together with the thickened pleura, are removed throughout the whole extent of the cavity as far as the second rib. In spite of the shrinkage which occurs in the flaps, when they are spread out it will be found possible to nearly cover the remaining exposed pleural surface, the tongue-like flaps being stretched past each other. They are held in place by packing, and the part which is uncovered remains an open surface. At the second sitting this can be covered either by transplantation or skin grafting. At the third operation the depression made by the costal pleural at the apex of the lung can be closed either by transplanting the flaps or by resection of the second rib.

TEMPORARY GASTROSTOMY FOR CICATRICIAL STRICTURE OF ESOPHAGUS.

VILLARD, in reporting a case of the above character, expresses the opinion that we must not consider gastrostomy as a definitive procedure, but rather as a temporary measure, to give the operator time to adapt his means to his case, and to give rest to the esophagus, thereby suppressing the spasmodic and inflammatory condition of that organ, and allowing the surgeon to resume the necessarily suspended catheterization. The following observation confirms these views: A woman aged forty-five years had a cicatricial stricture for the past four years, due to ingestion of sulphuric acid. Regularly catheterized, this woman was fed through the esophagus until June, 1897, when, from unskilful catheterization, deglutition even of liquids became impossible. This woman, after ten days of absolute diet, was in a very bad general condition, weighing only 39 kilogrammes (about 75 pounds). Villard then performed gastrostomy in two sittings, and for nine days the patient was fed through the stomach. Esophageal catheterization then became again impossible, as well as deglutition of liquids. From this on regular dilatation of the esophagus was performed.

Two months later an operation was done to obliterate gastric fistula; autoplasty with three planes of suture; an insignificant fistulette, persisting for some time; complete cure in November; the patient had then gained eleven kilogrammes. At present she is fed by the mouth regularly and catheterized from time to time, so as to maintain the caliber of the esophagus. This is not, however, a unique case. In a report by Lefort, comprising sixteen patients, thirteen recovered with a permeable esophagus after gastrostomy; and in one case of Jabouley, of Lyons, gastrostomy performed almost *in extremis* enabled esophageal catheterization twenty days after, with a complete subsequent cure. —*Journal of American Medical Association*, Jan. 22, 1898.

THE MANAGEMENT OF PATIENTS BEFORE AND AFTER LAPAROTOMY.

WIGGIN (*Medical Record*, Jan. 22, 1898) concludes his paper on this subject as follows, calling attention to the points which he considers important, though usually classed as minor ones:

1. The importance, whenever practicable, of prolonged preparatory treatment of patients about to undergo an abdominal operation.

2. The importance of the administration of cathartics in the early part of this period, followed by large enemas for the purpose of cleansing the intestinal tract.

3. The importance of keeping a record of the body temperature, respirations and pulse-rate for several days in advance of the operation, and of making a final examination of the urine.

4. The necessity in the female of arranging to have the operation performed a few days after the menstrual period, and the cleansing of the vagina, even when it is intended that the operation shall be by the abdominal route only.

5. The administration of a small quantity of peptonized food (one ounce) containing stimulants two hours before giving the anesthetic, for the purpose of lessening the tendency to nausea and vomiting after the recovery of consciousness.

6. The necessity of the anesthetic being given by an experienced physician, and in the smallest possible quantity.

7. The necessity of protecting the patient's body properly with clothing and blankets during the operation.

8. The advantage of stimulating the pulse before the heart has become much exhausted, and of using intravenous saline injections before the radial pulse has become extinct.

9. The leaving in the abdominal cavity after free irrigation of a quantity of hot saline solution, for the purpose of stimulating the patient, preventing (?) the formation of intestinal adhesions, and lessening the danger of septic infection of the peritoneum.

10. The necessity of making the patient comfortable by change of position during the first two days of convalescence, and by the use of the rectal tube.

11. The necessity for the early administration of food in reasonable quantities and at proper intervals.

12. The necessity of withholding stimulating enemata after operations in which extensive and firm pelvic adhesions have been broken up.

13. The necessity for deliberation as to the wisdom of reopening the peritoneal cavity in a given case of supposed concealed hemorrhage.

14. The importance of washing out the stomach as soon as the diagnosis of intestinal paresis is made, and of the persistent use of saline cathartics till the bowels move.

15. The importance of not administering cathartics to those convalescing from abdominal operations, and who are pursuing a normal course, too early or in too large doses.

OPERATIVE TREATMENT OF CANCER OF THE RECTUM.

Dr. DESFORGES-MEREIL (*Journal des Praticiens*) describes an operative procedure which he considers eminently fitting for this affection. After having successfully passed in review the coccygeal, sacral, parasacral, vaginal, perineal, and abdomino-sacral ways, the author concludes that it is best to return to the perineal method of Lisfranc, modified by himself as well as by other modern surgeons. This method is the most convenient and the surest, as it permits the entire lesion to be laid open, and allows us to see its connections with other neighboring organs. From a clinical standpoint the author establishes, according to the anatomical divisions of the rectum, two classes of rectal cancers—the recto-pelvic cancer, extending from the third sacral vertebra (superior limit of the rectum) to the levator ani, and the recto-perineal cancer, extending from the levator to the anal orifice. Every cancer situated above the third sacral vertebra the author considers as a tumor of the sigmoid flexure and not a cancer of the rectum. The true cancer of the rectum should be treated by the sacral method or by prerectal extirpation and suture of the two ends by a special method of the author's, which he calls recto-pelvian. The recto-perineal cancer would justify the amputation of the rectum according to Lisfranc's method, and suture of the rectum in the levator ani (the process of the writer). In inoperable cases an iliac anus will be found expedient, made by special process of the author. Those processes of extirpation have been tried on the cadaver and on the dog, and have given the author excellent functional results.—*Medical Record*, Jan. 22, 1898.

CHRONIC GONORRHEA AND ITS SCIENTIFIC TREATMENT.

VALENTINE (*Clinical Record*, January, 1898) summarizes his paper read before the Pan-American Congress and calls attention to the fact that Oberlaender strongly advocates dilatation of the urethra, holding as among its advantages easily obtainable practical asepsis; painless introduction of instruments and the precision of dilating only those spots which the urethroscope shows to be diseased; cessation of the morning drop; no temporary or permanent disadvantages to the patient or his occupation.

None of the dilators, excepting Kollmann's irrigating dilator, should be used without soft rubber covers. These covers should fit snugly and should be tested by turning the screw to its full capacity before the instrument is inserted. The straight dilator is used in the treatment of disease of the anterior urethra. Dilatation should be accomplished slowly and very gently. Shortly before removing it a solution of potassium permanganate, 1:6000, should be prepared with which to make an irrigation either of the urethra or the bladder, as occasion may require. In cases of pronounced urethral hyperesthesia cocaine or eucaine should be used before instrumentation. Dilatation as a rule should be practised about once a week. The amount of dilatation should be governed by circumstances. As a general rule it is safe to dilate two numbers in the beginning; after twenty-eight is reached, one-half, or one number. At the first dilatation the instrument is left in position from three to five minutes. From this time it may be increased by two or three minutes at each session. The extent to which dilatation may be made depends upon the caliber of each individual urethra. When

the patient is cured, then the maximum dilatation required is reached. The patient should always be put in the recumbent position, and extreme gentleness should rule in the use of the instruments. Erections following the use of dilatations may be prevented by the use of monobromate of camphor. When potassium permanganate does not improve a urethritis, corrosive sublimate (1:50,000 to 1:5000) or silver (1:5000 to 1:1000) may be successfully employed. When the prostate and seminal vesicles are involved, or the posterior urethra, they should be subject to massage at least twice a week before each irrigation. The third day after dilatation irrigation is advisable. Should early dilatation be followed by great increase of the discharge, the following dilatation should not exceed the number reached at the previous seance. This repetition of the same number should occur until the following discharge is trifling; then the increase may be one, two, or even three numbers at each sitting. The only correct guide in treatment is urethroscopy. The exact region to be dilated can be determined only by the urethroscope.

The danger which this treatment offers lies in the anxiety of the physician and patient to hurry the case, both observing the almost immediate improvement — to hurry the case by increasing the rapidity of the dilatation and reducing the intervals between each session.

Relapses during treatment are not rare. They are commonly due to sudden and violent dilatation or to new infection. Cases occasionally present in which the urethroscope, after persistent dilatations and irrigations, reveals no infiltration, no abnormality of the folds or striation, no cicatricial bands, to explain the persistence of discharge, especially the morning drop and filaments in the urine. Injections, painting the urethra with caustics, etc., prove of no avail. Then careful search of the urethra will discover, perhaps, only a few gaping orifices of gland ducts. These when treated through the urethroscope put an end to the manifestations of disease.

Kollmann has devised a fine syringe which can carry silver nitrate solutions into the glands, his sharp curette can scrape, and, these failing, they can be destroyed by his electrolytic needles, designed for the purpose.

When old gray-looking cicatricial masses do not yield to dilatations, Oberlaender recommends splitting them with his endoscopic knife. Successive punctures of the infiltrates with Kollmann's electrolytic needle, followed each time by irrigation, have proven successful. When filaments persist even after urethritis is cured, they probably come from the prostate or seminal vesicles.

Chronic posterior gonorrhea often yields temporarily to mild injections of silver nitrate. Relapses are frequent. Dilatation followed by irrigation often yields prompt and satisfactory results. The treatment of masturbator's urethritis does not differ from that described. One of the most useful drugs is monobromate of camphor in sufficiently large dose to quiet sexual irritability.

Valentine advises the positive prohibition of the so-called diluents — *i.e.*, effervescing mineral waters. The patient may, however, take large quantities of water or milk and water, but certainly not carbonaceous beverages. When it is positively proven that patients suffering from chronic urethritis harbor no gonococci, and when no active, acute, inflammatory condition remains, moderate sexual intercourse need not be specifically prohibited.

Reviews.

A System of Practical Medicine. By American Authors. Edited by Alfred Lee Loomis, M.D., Late Professor of Pathology and Practical Medicine in the New York University, and William Gilman Thompson, M.D., Professor of Medicine in the New York University. Volume III: Diseases of the Alimentary Canal, Peritoneum, Liver and Gall-Bladder, Spleen, Pancreas and Thyroid Gland, Chronic Metal Poisoning, Alcoholism, Morphinism, Infectious Diseases Common to Man and Animals, Miscellaneous Subjects.

Philadelphia and New York: Lea Brothers & Co., 1898.

The volume of this system at present before us opens with Diseases of the Alimentary Canal. To Richard C. Cabot is assigned the task of describing the affections of the mouth and adjacent structures as well as of the salivary glands. This is accomplished in a manner eminently satisfactory in a general work, and the article is of value for the terse manner in which is described a series of diseases of common occurrence. The consideration of Diseases of the Œsophagus is undertaken by Allen A. Jones, and that of Diseases of the Stomach by Charles G. Stockton and Allen A. Jones conjointly. The latter writer in discussing organic stricture of the esophagus is made by the text to say "The stricture may be *angular* in form," etc. We presume this to be a typographical error, annular being the word intended, as the text

continues, "new connective tissue proliferation being evenly distributed throughout the whole circumference of the tube." The section on Diseases of the Stomach is preceded by a chapter upon the general examination of the stomach and the examination of the gastric contents, which adds much to the value of the section. We are glad to notice that the writers at this point, and when discussing Carcinoma of the Stomach, give due importance to the presence and detection of lactic acid in the gastric contents. It is properly pointed out that the late investigations of Boas show the unreliability of Uffelmann's test as employed after the exhibition of Ewald's trial-meal. It is a matter of regret, however, that the writers should have been so indefinite in their statements that the student upon learning this fact must search elsewhere for the knowledge to apply Boas' test. In the treatment of Chronic Gastritis the writers give a timely hint against the too frequent administration of lavage, a method of treatment of great value, but undoubtedly in many instances improperly employed. This entire section is one of the most valuable in the volume.

Diseases of the Intestines are well described by William W. Johnston and Henry M. Lyman. W. F. McNutt contributes a thorough and painstaking article upon appendicitis. He decries the tendency of the present day to eliminate the term "typhlitis" from medical literature, and deplores the fact that so little regard should be given to the possibility of the occurrence of inflammation of the cæcum as well as of the appendix. The article throughout is vigorous in tone, and the endeavor is made to place the disease again firmly among those that are "medical," in contradistinction to those that have purely a surgical significance. The position assumed by the writer may best be indicated by quoting from his text: "Always operate when serious doubt arises as to the necessity for an operation. That skilled and experienced surgeons are justified in operating earlier and oftener than unskilled and inexperienced operators goes without saying. While surgeons call appendicitis a surgical disease, under some of the circumstances already mentioned the surgical treatment should be strictly confined to opening an abscess when fluctuation can be distinctly made out; and inexperienced practitioners are fully justified in using carefully the exploratory needle to diagnosticate the presence of pus."

It is impracticable within the limits of this review to specificially mention all the noteworthy articles contained within this volume. An article of much interest, however, is that upon Food-Poisoning, by Victor C. Vaughan, a subject, though of daily increasing importance, usually given scant attention in works of this character. The article calls for no comment, as the author's name sufficiently places it.

H. A. Hare, in a well considered article, describes the Diseases of the Peritoneum. It is evident that in the acute inflammations of this structure the writer demonstrates a tendency to yield to the spirit of the age which is taking the affection from under the control of the physician and transferring it to that of the surgeon. He says—and very properly we hold—"We believe that in all cases of peritonitis the outlook for the patient will be better if at the first a surgeon be called in to study the case with the physician." The author prefers to treat the affection by opium in large doses rather than by the use of saline purgatives. Indeed, he points out so many accidents likely to happen under the administration of purgatives that the impression is conveyed that their use at all is deprecated. Nevertheless, the writer hints at one very serious objection to the treatment by opium when giving as a reason for the advisability of an early surgical opinion "that the surgeon may grasp all the details of the case before any of them are set aside by opium." It is thus tacitly admitted that an obscuration of the symptoms indicating the necessity for operative interference attends the use of opium.

Diseases of the Liver and Gall-Bladder are most ably presented by J. E. Graham. This is the largest individual contribution to the volume, and the subjects are given thorough and scientific consideration.

Other noteworthy articles are those upon Diseases of the Spleen, by George Roe Lockwood; Diseases of the Pancreas, by Charles G. Stockton; Diseases of the Thyroid Gland, by Francis P. Kinnicutt; Chronic Metal-Poisoning, by Frederick G. Finley; Alcoholism and Morphinism, by James Stewart. The Infectious Diseases Common to Man and Animals are also ably considered by James Law.

It is evident that between the writing and the publication of some of the contributions to this volume a considerable interval of time has elapsed, as the most recent advances in several instances have failed of notice. This is a fault of all Systems, however, and one

which, on the whole, the one now under review possesses in a minimum degree.

The present volume, like its predecessors, is an example of what is best of the publisher's art. T. G. A.

THE NERVOUS SYSTEM AND ITS DISEASES. A Practical Treatise on Neurology for the Use of Physicians and Students. By Charles K. Mills, M.D. Copiously Illustrated.
Philadelphia: The J. B. Lippincott Company, 1898.

Dr. Mills has presented us with a volume of nearly eleven hundred pages upon this very interesting field of study in medical science. He points out in his preface that the great work of Gowers is the only extensive treatise on Nervous Diseases in the English language, and that he has thought that the compilation of the present volume will present to the profession a full consideration of the many recent additions to the anatomy and pathology of the nervous system. The volume is dedicated to Dr. Weir Mitchell, which, of course, is an exceedingly appropriate act, considering the relations of Dr. Mitchell to neurology and to the medical profession of Philadelphia. An examination of the pages of the book reveals one thing which we think is to be regretted, namely, that enough care has not been given to the illustrations, which, while they generally show what they were intended to show, are not executed as well as their importance deserves.

In the chapter on the General Therapeutics of Nervous Diseases we fail to see why Dr. Mills has made differentiation between "alterative tonics" and "metallic tonics," for all of the alterative tonics that he mentions are metallic tonics. The facts which are cited in the short page devoted to Bromides are certainly not as inclusive of the facts which we know concerning these preparations as one would expect to find in so exhaustive a manual, and we do not think that enough emphasis is laid upon the limitations of these preparations or on the fact that they are capable of doing harm.

We are glad to see Dr. Mills has the courage of his convictions and does not hesitate to mention the particular products which he has found valuable in his personal practise. Notwithstanding these facts, however, we think that this portion of the book in a future edition ought to be considerably modified, for if there is one thing above another which medical literature needs to-day it is some book which will embody most of the valuable points in the therapeutics of nervous diseases, for at the present time these diseases are more interesting to the physiologist and pathologist than to the general practitioner, owing to the limited treatment which can be accorded to them. This is partly due to the characteristics of the diseases and partly to the faulty and imperfect study of their therapy.

It is in the chapters which study the microscopic and macroscopic anatomy of the nervous system that Dr. Mills' book first strikes us as being exhaustive and useful, and it is to this part of scientific neurology that Dr. Mills has devoted many years of constant labor. Those who attended the First Congress of American Physicians and Surgeons in Washington will remember the brilliant summary of neurological knowledge which he presented in his address to the Congress on that occasion, and it goes without saying that since that time his study and contributions to medical literature have been such as to render these chapters in his book exceedingly useful.

One point which strikes us as being of value in the work is the fact that almost every page reveals Dr. Mills' personal clinical experience, and that the illustrations are, so far as the patients are concerned, many of them original. It was the "original" characteristic of Gowers' book, coupled with the fact that he was able to present neurological facts in an interesting manner, that made that work successful, and Dr. Mills' accuracy in the study of diseases, his love of his theme, and his ability to teach, have produced a volume which bids fair to rival its older antagonist.

DOCTOR AND PATIENT: HINTS TO BOTH. By Robert Gersuny. Translated by A. S. Levetus. With a preface by D. J. Leech.
Bristol, England: John Wright & Company, 1898.

Opposite the title-page of this book, the object of which is well expressed in its title, are quoted the words of Professor Nothnagel, "Only a good man can be a good doctor;" and in its brief seventy-nine pages this is the text upon which the author continually writes.

The first chapter deals with the Relative Position of Patient and Doctor, with Confidence in the Choice of the Doctor; the second with the First Visit, the Examination of the Patient and His Complaints; the third, with Common Sense and Cheerfulness. Then follow others on Diagnosis and Prognosis for the Patient and His Friends; the Action of the Physician in Desperate Cases; on the Frequency and Length of the Doctor's Visits; on the Misconstruction and Abuse of the

Doctor's Statements and Gossip. Other chapters are provided upon the Harmful Influence of the Persons about the Patients; upon Household Remedies and Quack Doctors; of Corruption of Doctors by the Public; Consultations and Fees.

We are sorry that this useful little book, which will prove invaluable to old as well as young physicians, has not been published by an American publisher, but as any one of the large booksellers can readily obtain it, and as its cost is but fifty cents in a good binding, we trust that many of our readers will take enough interest in it to carefully peruse its pages. It is written in a light and useful vein well qualified to amuse as well as to instruct, and the ground covered by its chapters we have already indicated.

As Professor Leech well says in his preface: "We cannot rise from the perusal of this book without feeling better for the wise counsel it gives and without having received an incentive to do that which is right and maintain at its highest point the honorable position of the profession."

A Compendium of Insanity. By John B. Chapin, M.D., LL.D.
Philadelphia: W. B. Saunders, 1898.

Dr. Chapin has devoted so many years of his life to the study and cure of the insane, and has had such an unusual experience in one of the largest insane asylums in this country, namely, the Pennsylvania Hospital for the Insane, and other institutions, that anything which he may write upon his specialty will necessarily attract the interest of medical men in general and of alienists in particular. The book which he has presented to us is a small octavo volume of 227 pages, and this indicates that the text is not particularly diffuse or exhaustive, for the type is large and the leading heavy. The chapters of the book deal with Idiocy and Imbecility, Insanity and the Definition of the Terms, Insanity, the Actions of the Insane, the Classification and Nomenclature, and a chapter upon three of the forms of melancholia. This is followed with one upon the Treatment and Management of Melancholia, while Chapter IX deals with the various forms of mania and its variations. Then follow chapters upon the treatment of Mania, Dementia, Paresis, Epilepsy, and Abnormal Psychical States; the two final chapters of the book being devoted to Morbid Anatomy, Medical Certificates and Feigned Insanity.

As the chapter on Morbid Anatomy only covers seventeen pages, it will be seen that in this portion of the book at least the text is by no means exhaustive. Indeed, we consider that this chapter is one of the weakest in the volume. The illustrations are good and the text is written in a brief manner, rather in the form of a talk with the reader upon the subject of insanity than with the design of preparing an exhaustive monograph.

As an illustration of the views of an alienist of wide experience the book is of value. Dr. Chapin has been known far and wide throughout the profession for his high ideals as a professional alienist, and we doubt, therefore, whether he will approve of the announcement of the publisher that "Owing to its clear, untechnical language it will prove a useful manual to the legal profession and will afford information of the utmost value and interest to the layman, enabling him to recognize insane tendencies and to provide intelligently for any case of insanity in the family that he may be called upon to care for temporarily." A little knowledge is a dangerous thing, and the records of the medical and legal professions are strewn with the wrecks of families where one member has been insane enough to believe that the others needed his parental guidance and the care of an asylum, when as a matter of fact it was he that was insane. We cannot imagine any department of medicine in which a faulty knowledge of disease upon the part of the layman can produce so much unhappiness for himself and his friends as in that branch of medicine which deals with nervous diseases and the study of the insane.

An Atlas on the Essentials of Pathological Anatomy. By Dr. O. Bollinger. Volume IX: Diseases of the Circulatory, Respiratory and Digestive Apparatus. Illustrated with Colored Plates.
New York: William Wood & Company, 1898.

This volume is like the rest of this series which we have already reviewed, consisting of an Atlas of Ophthalmology by Haab, of Nervous Diseases by Jakob, and of Gynecology by Schaffer, with the exception that Pathological Anatomy is so large a subject that it will fill two volumes, of which this is the first. The book is also identical in its scope and apparently belongs to the same series as the Atlas of Clinical Medicine by Jakob, issued by another publisher, which we review in this number of the Gazette. Its price is also $3.

This volume is by far the best of any of the series. The colored plates are unusually well chosen, singularly well executed, and illustrate in a peculiarly lifelike (or to speak

more correctly, a peculiarly deathlike) appearance the pathological changes which have taken place in the various organs of the body. It is evident from the imprint on the plates that they are all imported, and the lithography of Germany and Austria is celebrated the world over for its faithful portrayal of anatomical material. There are few books which are sufficiently good to arouse the reviewer's enthusiasm. This is one of them.

A Laboratory Text-book of Pathology for the Use of Students and Practitioners of Medicine. By Horace Whitacre, B.S., M.D. Illustrated.
Philadelphia: P. Blakiston, Son & Co., 1898.

This book, which is just received for review, has the aim, we are told in the preface, to state in clear terms the principal facts which are needed by the student in working with his microscope in the laboratory. It covers a little over 150 large octavo pages, and almost every page has one or two illustrations taken from micro-photographs, dealing with the tissues which are described in the text. The author is anxious that it should not be considered by the reviewer as an exhaustive treatise on Pathology. He only claims that it is a summary which will be of value to the student in his laboratory work. Some of the illustrations are very good, but that on page 161 representing the pigmented plasmodium malariæ in the stage of segmentation is very poor, and that on page 162 is not any better. The text itself, as far as it goes, is clear and to the point. Those who are interested in the teaching of pathology may find that this volume is of use to them, while others who have different methods of teaching will probably find that it does not agree with the course of teaching which they have designed.

An Atlas of Methods of Clinical Investigation. With an Epitome of Clinical Diagnosis and of Special Pathology and Treatment of Internal Diseases. By Christfried Jakob. Edited by A. A. Eshner, M.D. Profusely Illustrated with Colored Plates.
Philadelphia: W. B. Saunders, 1898.

This is an exceedingly useful little manual to the practising physician. The treatise showing areas of various organs in health and disease as they are outlined by the methods of clinical diagnosis are colored and unusually good. There are also very good plates showing the most important color reactions of the gastric juice, and a large number of colored plates showing the condition of the blood in various diseases, of the microscopic particles which are found in the secretions of the mouth, and other cavities of the body, and finally there is a section of some 200 small octavo pages devoted to the consideration of clinical diagnosis.

Because of the plates the price of the book is necessarily above that usually charged for a volume of this size, namely, $3.

Annual and Analytical Cyclopedia of Practical Medicine. By Charles E. Sajous, M.D., and One Hundred Associate Editors. Assisted by Corresponding Editors, Collaborators, and Correspondents. Illustrated by Chromo-lithographs, Engravings, and Maps. Volume I.
Philadelphia: The F. A. Davis Company, 1898.

The lack of punctuation on the title-page of this the first volume of the successor of the Annual of the Universal Medical Sciences, a publication which is familiar to most of the profession in this country and abroad, suggests the startling idea that a similar lack of commas and other punctuation marks, if found through the text, would cause the reader some difficulty. An examination of the text, however, shows that it has been more carefully edited and as a rule very well written. The present volume is bound in linen and is pleasing in appearance. It covers 600 pages, the text being printed in double columns, which are a little narrower than those of the Therapeutic Gazette. Four styles of type are used—large, black-face type for headings, smaller black-face type for subheadings, good-sized print for the ordinary text, and a smaller type for references and for text which is not considered particularly valuable.

Therapeutics has been laid aside as a separate department, and the articles on various diseases are followed by articles upon their treatment. Illustrations, as in the old Annual, are exceedingly creditable so far as the chromo-lithographs are concerned, but many of those without colors seriously lack printers' ink. At the beginning of the volume a statement is made of the editorial staff, which consists very largely of those whose names are already familiar to the readers of the Annual, since their functions have simply been transferred from one publication to another.

The present volume extends from Abdominal Injuries to Bright's Disease, which will give some idea of its scope and that of future volumes. To those who have become fond of the arrangement of the Annual as previously published this book will doubtless appear somewhat strange, but through it all the skill of Dr. Sajous as an editor is manifested, and we doubt not that on the appearance of the complete set of volumes

the profession will be even more pleased with the product of his labor than they have been with the monument which he has already erected to himself in medical literature.

Correspondence.

LONDON LETTER.

By Raymond Crawfurd, M.A. Oxon., M.D., M.R.C.P. Lond.

We regret to have to record the death of Sir Richard Quain at his residence in Harley Street on March 13. Though in his eighty-second year he devoted himself to the duties of his profession up to the last few months of his life. Indeed, he transacted from his death-bed much of the business of the General Medical Council, of which he had been an indefatigable President since the year 1891, when he was elected to the presidency on the death of Mr. John Marshall. The attractions of his personality assured to Quain the professional success which he had enjoyed ever since the early years of his career. Yet we should hardly deem him one of those physicians of whom this country should be most rightly proud. Quain was great, not because of any contributions to medical science of first-rate importance, but like Johnson, because of his Dictionary. The editorship of this colossal work was undertaken by him at the busiest period of his professional life, and the thoroughness of the work and the success it has attained are evidence of the fact he spared himself no pains in its compilation. His own principal contributions to the Dictionary were the articles on Angina Pectoris, Diseases of the Bronchial Glands, and Fatty Degeneration of the Heart—the latter subject being one with which his name will always be associated in medical literature. It is estimated that over 50,000 copies of the Dictionary are in the hands of the profession. Quain was never elected President of the College of Physicians, in spite of his untiring energy in its service, and is said to have been keenly disappointed at not securing what he deemed "the blue ribbon of the profession."

The death of Sir Richard Quain vacates the presidency of the General Medical Council. There is a generally felt wish that Sir William Turner, who has already done the duties as deputy, may consent to undertake the office. This, however, would probably necessitate his residence in London, and retirement from the Chair of Anatomy in Edinburgh; and it remains to be seen whether Sir William Turner will feel himself bound to make these personal sacrifices for the benefit of the profession.

On March 16 the President of the Local Government Board introduced the Vaccination Acts Amendment Bill into the House of Commons. Clause I fixes the age limit within which the child shall be vaccinated at twelve months instead of three months as heretofore, and the parents are not compelled to take the child to the public vaccinator. We certainly approve the longer limit of age, as many children at three months are quite unfit for vaccination; the necessity also of obtaining a certificate of unfitness has certainly disposed some parents unkindly to vaccination. It is also desirable from the side of vaccination, as we shall have much less syphilis attributable to the vaccinator that should rightly have been traced to the parents. Clause II provides that the public vaccinator of the district shall, if the parents wish it, visit the home of the child for the purpose of vaccinating it. This provision of domiciliary vaccination is in response to the recommendation of the Vaccination Committee. With the general use of calf-lymph the necessity for arm-to-arm vaccination is done away with, and the vaccination "center" is to be a thing of the past. Under Clause III, if a child is not vaccinated within nine months after its birth the public vaccinator of the district shall visit the home of the child, and offer vaccination with glycerinated calf-lymph. This seems to us by far the most important innovation of the Bill. In the first place there can be no question of transmission of syphilis by calf-lymph; and further, the multiple secondary infections of the infant with erysipelas, tubercle and other micro-organisms cannot be laid to its charge. The large supply of calf-lymph that will be required will necessitate considerable enlargement of the establishments at which it is prepared, but this has been satisfactorily adjusted by arrangement with the Institute of Preventive Medicine. A further clause abolishes repeated penalties for non-compliance with the Act. Repeated penalties have not been found successful in coercing parents, and have at the same time stirred up much unnecessary antagonism to vaccination. Mr. Chaplin has very properly declined to accept the recommendation of the Commission that any parent who had a conscientious objection to the practise should be excused on making a statutory declaration

to that effect. Such a concession would have made any legislation on the matter of vaccination nugatory. Indeed, it is a matter for apprehension lest the removal of repeated penalties should deprive legislation of much of its compulsory power. The Bill should certainly have gone a step further in securing the welfare of the community by providing for revaccination on the same lines as for initial vaccination. Knowing as we do the limited duration of immunity it is certainly a serious omission that no provision should have been made for encouraging adult vaccination.

Recently records have appeared in several of the medical journals of cases of Addison's disease that have been treated by suprarenal extract. In this country the disease is so comparatively rare that it hardly falls to the lot of any physician to see sufficient cases on which to base a generalization, and one must needs trust the evidence of accumulated records. Two years since Ringer and Phear collected all the cases recorded in medical literature. Speaking generally these fell into two classes, those that derived no benefit from the treatment, and those in which there was temporary improvement of muscular strength, now and again associated with some diminution of intensity of the pigmentation. M. Béclère, a French physician, has recently recorded a case in which improvement only set in five months after commencement of treatment, and was then maintained for three years and still showed no sign of abatement. It seems as though the suprarenal extract exercises some beneficial influence on the healthy residue of suprarenal capsule, possibly inducing hypertrophy; at any rate, it can hardly be that the extract supplies some substance which the disease of the capsules has removed from the economy. Our own experience extends only to three cases: Of these, two were very advanced cases of the disease at the time at which treatment was commenced, and there was no improvement of any kind even in the degree of muscular vigor, and each case ended fatally. The third case is somewhat more promising in that the disease is in an earlier stage, but at present after three weeks of steady treatment there is no apparent amelioration.

I have recently seen in King's College Hospital what must be an almost unique therapeutic triumph. In the first place an hour-glass contraction of the stomach was correctly diagnosed by Dr. Burney Yeo, and in the second place it was operated upon by Mr. Watson Cheyne with what appears likely to be permanent relief. The history of a gastric ulcer seventeen years ago was quite definite, and the subsequent symptoms pointed very clearly to pyloric obstruction from cicatrization of the ulcer. The points which aided the diagnosis of hour-glass contraction were the excessive distention of the cardiac end of the stomach — a condition which was not present in the pyloric end of the stomach — and on auscultation over the middle of the stomach a gurgling sound could be heard from time to time as though fluid were running through a narrow orifice. The operation performed by Mr. Cheyne was the so-called Heincke-Mikulicz operation. A vertical incision was made over the stomach in the midline about four inches in length, and the stomach drawn out of the wound; it was at once seen that an hour-glass contraction in the middle of the stomach was to be dealt with. The constriction was so tight that a moderate-sized catheter could only just be passed through it. There was a great deal of cicatricial tissue about the constriction, and a complete absence of mucous membrane over its surface. The constriction was then divided transversely, and the incision extended for an inch or more into the healthy tissue on each side of the cicatrized portion. By bringing the extremities of the wound together a considerable addition of space was provided for the passage of food, as in the operation of pyloroplasty. The wound was stitched up first with a row of stitches through the whole coats of the stomach, and then with a row of Lembert's sutures. Mr. Cheyne would have preferred to excise the whole cicatrized portion and unite the divided ends of the stomach, but the condition of the patient was hardly such as to warrant the major operation. The patient from the first made an uninterrupted recovery. For the first few days after the operation rectal feeding was resorted to, but on the fifth day she was fed completely by the mouth. In the first month after the operation she was sick only once, and this was attributable to an error of diet. It is now three months since the operation, and she is steadily gaining weight and suffers very little digestive inconvenience. It will be interesting to see in the course of a year or more what degree of contraction will occur in the neighborhood of the wound.

Dr. Joseph Griffiths read a paper of some interest to the Royal Medico-Chirurgical Society on Microcephaly and its Surgical Treat-

ment. The conclusions which he deduces are as follows: (1) That congenital microcephalic idiots may be divided into two main classes: (*a*) those with small ill-filled but not deformed skulls; (*b*) those with small and deformed skulls. (2) In the former class the brain is at fault, being arrested in its development in an early period of embryonic life; in the latter there is in addition to arrested development of the brain evident disease of the cortex, distributed in patches more or less symmetrically, the deformity of the skull being determined by the shape of the brain. (3) There is a hypothetical case in which the skull is prematurely synostosed and the enclosed brain more or less normal, but hitherto no evidence has been brought forward to show that such cases actually occur. (4) Craniectomy in all but the last named (hypothetical) case can be productive of no permanent good, as the original fault is in the cerebrum (or of the whole nervous system) and not in the skull. (5) Where there are symptoms, such as general rigidity of the limbs, etc., which are in all probability due to irritation of the motor cortical centers, then operative interference (trephining or craniectomy) is likely not only to afford amelioration of the symptoms, but in some cases to lead to a substantial and even permanent improvement. (6) Hitherto the mortality from operations has been very high, but with experience it is likely that this will be materially reduced.

In the February number of the *Edinburgh Medical Journal* are some interesting observations by Dr. Campbell Clarke on the Therapeutic Value of Spleen Extract. Briefly he summarizes its therapeutics as follows: "It aids digestion and nutrition, increases the cutaneous circulation, and stimulates the glandular activity of the skin." Dr. Clarke was led to look for some benefit from spleen extract in cases of insanity by the frequency of splenic deficiency in the insane. The first group of cases he submitted to the treatment in the asylum were cases of chronic inertia, mental and physical. Some of the cases seemed to benefit materially, and two cases even appeared to have been cured, but in the larger number the results were negative. In another group of cases where the mental condition was more promising, and had in most instances broken down under some physical strain, such as prolonged lactation, the results were far more prompt and decided. The improvement was at first mainly of the physical condition, but later the mental state followed suit, so that some recovered completely, while others underwent some amelioration. The observation of these two classes of cases served to show that the splenic extract had marked influence on the skin and complexion, and the third group of cases was specially chosen to test its efficacy in this direction. In two cases—one of chronic psoriasis, the other of chronic eczema—the success was rapid and remarkable. It is impossible to detail the cases that came under treatment, but any one will be well repaid by the perusal of this most interesting paper in its entirety. Dr. Clarke commenced his investigations with home-made emulsions of spleen substance in salt solution and glycerin, but subsequently this was substituted by one of the more palatable forms now in the market. These may be had either in the form of tabloids, or of emulsion, or of fluid extract. The emulsion is an ether extract of spleen, and each fluidrachm is equivalent to five grains of extract. The limit of safe dosage seems to be about one drachm three or four times a day. Of the fluid extract one drachm is equivalent to a drachm of fresh spleen, and of this three to four tablespoonfuls may be safely given each day.

PARIS LETTER.

By A. R. Turner, M.D. (Paris).

Bacteriology is being studied a good deal by the younger men at the Faculty of Medicine, and Dr. Bezançon, chief of laboratory at the Faculty of Medicine, and Griffon have spoken lately at the Society of Biology on their researches concerning the cultivation of the pneumococcus. Gelose and bouillon are well known to be very poor mediums for pneumococci, as under such conditions they develop tardily and without capsules. Dr. Mosny has proposed rabbit's serum, and Drs. Gilbert and Fournier defibrinated blood. These two mediums are excellent, but are to be used differently. If what one wants is the characteristic appearance of pneumococci, if one wishes to isolate it from other varieties of germs, the serum of rabbit is certainly very useful, but one should choose a young rabbit. The serum of other animals may be used provided they are chosen young. But in case one wishes to keep in a laboratory some pneumococci with all their virulence, the best method is to use blood. The pneumococcus does not grow as well, but can be preserved much longer. To prevent the des-

iccation of tubes in the oven, one should add as much again of ascitic or pleuritic serum. By this method Dr. Bezançon has been able to keep several cultures three to four months. To conclude, it is well to use defibrinated blood as a means of culture and serum of young rabbit as a means of diagnosis.

The serum of Marmorek continues to be examined more or less critically by various members of the medical profession in France. This serum, which is supposed to act in cases of streptococcic infection, has been employed in a number of surgical services, and at the present time is being employed at the Beaujon Hospital in the Maternity Department. Dr. Courmont has, however, insisted upon this fact, that the serum can only act in certain cases of infection, and that the result, good in some cases, may be reduced to nothing in others, according to the variety of streptococci. This serum has also been tried in some cases of erysipelas without proving that it could be counted on as an antitoxin. One can say that the value of Dr. Marmorek's serum is not as yet fully established, and the tendency as shown by what is heard in the hospitals is that further work is needed on the subject.

At the last reunion of the Society of Therapeutics Dr. Linossin cited a case of a woman thirty years old who, under the influence of a dose of twenty-five centigrammes of exalgin taken for an attack of hepatic colic, presented an eruption of bullous erythema appearing on the body as well as on the hands. There was no pruritus, but a sensation of burning in the digestive tract. No fever was observed and no albumen found on examination of her urine. This eruption lasted four days and then disappeared. The well known pharmacologist Bardet made some remarks about this case and said that too much exalgin was given in some cases, and that a dose of ten to fifteen centigrammes only should be given to women.

Dr. Landouzy, professor of therapeutics at the Faculty of Medicine, has been publishing of late in the *Presse Médicale* a series of schematic observations of various medical cases, and giving the rational treatment to be followed out. The first paragraph of each article is given to the description of the case, its symptoms, progress, and termination. The heading of this part of the article shows that therapeutics must be "clinical in their sources of information" — for instance, a case of pachydermic cachexia in a woman sixty years old without any noticeable modification of the thyroid gland. This condition, as shown by the article, can be mistaken for that produced by asthenia resulting from cardio-renal lesions.

The second paragraph goes to show that the means used must be "pathogenic in their indications." The cause of the disease must be well specified — *i.e.*, lack of thyroid elements—and therefore this is to be overcome by the use of the very element in question.

In the third part the treatment to be used is indicated. It must be "physiological in its means," and therefore one must supply what is lacking — thyroid gland tissue — and also tone up the nervous system perverted by the lack of proper elements.

In the final part of each article, the author describes the various remedies used and indicates minutely what should be done as to hygiene or dietetics. For instance, in the case in point:

1. The former treatment should be suppressed.

2. Each day at every meal ten centigrammes of thyroid gland of sheep should be taken in a capsule.

3. Vigorous rubbing with a flannel glove moistened with lavender alcohol every morning on upper part of body.

4. An enema every morning of 300 grammes of tepid water with ten grammes of borax.

5. Every week a dose of castor oil—twelve grammes.

6. The food taken should consist of milk-soup, eggs, cutlets, sheep's brains, beef once a day, macaroni, dry vegetables (mashed), chicory, boiled lettuce, various custards, cooked fruit, light tea. This treatment is to be modified as improvement sets in.

These short and practical articles seem to be appreciated by the students, as they indicate clearly what should be done in a given case and are up to date.

In a recent number of the *Correspondenz-Blatt für Schweizer Aerzte*, Dr. Huguenin, of Zurich, has published some important information on the hemorrhage seen in tuberculous patients in the first stages. By being able to examine the condition of the lung after death in a certain number of cases he has shown that the characteristic symptoms observed in such cases are due to well-defined bacteriological and anatomical causes. The clinical aspect offered by this variety of patient is sufficiently clear and precise. A tuberculous patient, suffering from a small ulceration of the summit of the lung, has a hemorrhage that lasts about an hour, though

without being intense. The next day the same thing occurs, and there is a continuance of this phenomenon for eight or ten days. This sort of hemorrhage is much more to be feared than the ordinary variety. One can readily understand that the blood effused is aspirated into other parts of the lung, and that on account of its consuming a great number of streptococci and bacilli of Koch it is apt to produce most serious disorders.

In several such cases Dr. Huguenin has been able to observe at the autopsy that the hemorrhage was due to the ulceration of a vein and not that of an artery. On examining the expectoration of patients suffering from this form of hemorrhage, one generally finds a peculiar sort of a clot. This clot is pediculated, irregular in form, and on examination is found to be composed of a series of layers of fibrin. In the center is a cavity containing recent clots. One can therefore consider this formation as being due to a hemorrhage inside a small excavation in the lung, with deposits of successive layers of fibrin on the walls of the excavation. Later the outer layers are attacked by the streptococci, and on account of these being modified the clot is expelled and another hemorrhage takes place.

The treatment of this form of hemorrhage is rather delicate, as coughing is necessary to expel the blood, and on the other hand this is apt to prevent the formation of a clot. Coughing should therefore be diminished without being totally suppressed, and to obtain this small doses of morphine—for instance, five milligrammes thrice daily—may be administered. Mustard plasters, dry and wet cupping and temporary ligation of the limbs may also be useful. Dr. Huguenin does not believe in the use of astringents, such as acetate of lead, tannin, alum, of ice, nor of ergotin. As to the infectious condition due to the presence of streptococci, creosote or its compounds would seem to be of use.

At the Society of Therapeutics Drs. Gallois and Bonnel have advocated the use of oxygenated water in the treatment of continued vomiting in gestation or in consumption. The solution they use is the one containing ten volumes of gas, and this solution should also contain a small quantity of hydrochloric acid to give stability to the preparation. A thing to be remembered is that one should use an active solution, and the best means of recognizing this condition is to deposit a small amount on a piece of iron, when bubbles will appear and the iron get rusty. The dose administered is one large spoonful dissolved in a liter of water, to be taken in twenty-four hours during meals. This treatment has been of great service, but it has not been clearly proved on what one can base the physiological action of this drug. Is it due to hydrochloric acid acting upon the digestive functions, or rather to a special oxidizing influence of the oxygenated water on various ptomaines, thereby rendering the latter harmless?

BERLIN LETTER.

By James J. Walsh, Ph.D., M.D.

Of interest in connection with what I said in my last letter in regard to protargol and the use of the silver compounds generally in gonorrhea, is the announcement from Vienna of a new compound of silver and albumin. This will kill, in a test-tube, gonococci in dilutions of 1:4000. Its inventor claims that it will replace protargol.

In the midst of the supreme lack of confidence in drugs that one finds among medical men over here, it is a cause of no little surprise to find that certain remedies whose mode of action is at least doubtful, and which the most refined scientific classification of therapeutic remedies can only bring under the empiric rubric alteratives, enjoy a high reputation among all classes of medical men. The iodides are a type of this class, and all the clinicians are agreed that, apart from syphilis, in all chronic inflammatory processes which have not gone on to actual degeneration, the iodides are efficient in bringing about resolution and involution of the inflammatory exudate. Professor Leyden, for instance, is sure that they do good in fibrous myocarditis and in the arterial conditions which are productive of interstitial myocarditis. Professor Mendel is convinced that he has seen two very striking effects from their use in arteriosclerosis: first, within a very short time after their employment the sharp, clanging second sound of the heart was rendered distinctly softer; second, watching the state of the radial artery carefully for a time showed that after three or four months it became distinctly softer and more elastic to the feel; thus confirming to the coarser sense of touch what the delicate heart mechanism had revealed to the sense of hearing shortly after the beginning of the treatment.

Professor Heubner uses the iodides in all diphtheria cases and finds that the diphtheritic membrane is loosened easier, and thrown off sooner, when it is employed in conjunction with the serum, than when diphtheria serum is employed alone. All of the clinicians are agreed that for aneurismal pains and the sense of persistent tenderness, sometimes amounting almost to dull pains, that occur in connection with aneurism, the iodides are almost a specific. Potassium iodide is not much employed here, the potassium being considered too depressant, so that the combination with sodium is preferred. To children where the iodides seem indicated, the saccharated iodide of iron is given. The iodides are never given in large doses; twenty grains three times a day is considered a good-sized dose for an adult, and more than this is seldom prescribed.

Two good illustrations of the protean forms that drug eruptions may assume have just been reported here. In one case, during the taking of the bromides for some of the symptoms of the climacteric there developed on the face and neck a series of half-spherical nodules, some of them as large as a walnut, and smaller nodules near the margins of the hair. The surface of these nodules was uneven, granular-looking, excoriated, and with a marked tendency to bleeding. The fully developed clinical picture was exactly that of mycosis fungoides. The diagnostic difference lay in the more rapid development of the lesions in the drug eruption, the preliminary stage of erythema being a very short one. In the other case the use of antipyrin, and not in very large doses, was followed on a number of occasions by an erythematous spot an inch or more in diameter, in the right abdominal region. No other cutaneous lesions on any part of the body could be found, though they were carefully looked for. This single symptom was always preceded by an itchy feeling in the anterior abdominal region, extending around to both sides, but limited to the width of a belt.

Here in Berlin one seldom sees malaria. There is scarcely any of the disease in this part of Germany, and what there is occurs in patients who have contracted the disease in other lands. Recurrent neuralgias are, however, not so rare. A neuralgia that returns almost at a definite time every day, or sometimes every second day, or even at longer intervals, yet regularly, is not very uncommon. In a malarial region these would be set down at once as malarial. Here there can be no question of their being that, yet they are often promptly relieved by quinine. This naturally causes a reversion to the thought of malaria once more, but there is absolutely no reason for it. The cases have been carefully examined just with this object in view, of deciding whether by any possibility there was a malarial element in the cases, but none could be found. It would seem either that the tonic effect of the quinine makes itself felt at once upon the functional disturbance of the sensory nerves, or that, as the old physiological therapeutists believed, there is an absolute anti-periodic effect in quinine which has been allowed to drop out of sight for the present, because the germicidal rôle of the drug in killing the plasmodium malariæ has been supposed to be its only effect.

The thirteenth edition of Professor Ewald's book on "General and Special Prescription of Drugs" has just appeared, and is of interest as giving the newer drugs, even the proprietary preparations with their dosage, and their claims to therapeutic attention. The department of organo-therapeutic remedies mentions no less than forty of these preparations that are now on the market—extracts from every organ in the body. For some of them claims are made that far outstrip the wildest therapeutic dreams of the medieval panacea compounders. One very practical firm whose philanthropic aspirations for the relief of long-suffering humanity, especially in certain distinctively *fin-de-siècle* needs, are very evident, has no less than seven testicular preparations for sale. There is dried, powdered bull's testicle, then testinum (dose three to five grains), testidinum (a milder preparation), orchidinum, and sequardinum, besides two supposedly chemical equivalents for testicular extract, representing the active principles of seminal fluid.

Professor Posner's method of testing organo-therapeutic preparations by means of the Ehrlich tri-acid stain, though only in its period of probation, promises to be of distinct help to the practitioner and the dispenser, in enabling them to decide whether preparations really contain and how much they contain of the tissue extracts of various organs. Various tissues and their products seem to give specific characteristic reactions with these stains, and it is hoped that further study will develop the technique of this testing method so as to make it scientifically exact.

Meantime, there is no doubt that certain of the organo-therapeutic remedies are giv-

ing promising results. There is a prominent gynecological clinic here in which oophorin has given excellent results for the nervous symptoms of the climacteric, both the natural one and the anticipated change of life after the removal of the ovaries. Not long ago, in a report to the Berlin Medical Society, Dr. Saalfeld claimed to have got excellent results from it in certain of the skin diseases that develop about the climacteric—the rosacea of cheeks and nose, the obstinate eczemas that sometimes develop at this period, the prurigo and lichenoid eruptions that are met with. Later experience seems to show that oophorin influences favorably the acne and comedones of puberty. In these, where the results are so directly under the eyes, one might think that suggestion did not play a rôle; but it must be simply tried out, I suppose.

Instead of the ordinary incisions around either or both malleoli in arthrectomy at the ankle, some surgeons now employ the Pirogoff incision from malleolus to malleolus, passing underneath the heel. The arthrectomy can be made very completely in this way, and diseased material, judged of by sight as well as touch, can be very thoroughly eradicated. The parts may be better adapted to each other so as to give a useful limb and disposed to heal sooner, as not so much space is left after the removal of necrosed tissues to be filled up at first by blood clot with all its dangers of infection, and later by the slow process of granulations, before the wound is healed entirely. The scar beneath the heel will be of some inconvenience in walking afterwards, but most of this may be obviated by a groove in the heel of the shoe, which will have to be specially made anyhow, and the advantages during and after the operation more than offset this single disadvantage.

HONEY POISONING.

To the Editor of the THERAPEUTIC GAZETTE.

SIR: I notice in your issue of February 15 that your correspondent, C. D. Voorhees, M.D., mentions a case of poisoning by honey. I have not a copy of Xenophon's Anabasis at hand, but I believe that in the last book of that work there is a detailed account of the sufferings of some of the Greek troops who partook of honey shortly after their arrival on the shores of the Euxine. In that case the poisonous agent was probably the "thorn-apple" (*Datura Stramonium*). I have myself seen boys seriously affected after eating the honeycomb of the bumblebee (Bombus Terestris and Bombus Lucovum). This occurred in England, in the county of Nottingham, where the foxglove is a common wild flower, very much affected by the bumblebees. The symptoms were vomiting, violent purging, and pain in the abdomen. The pupils of the eyes were widely dilated, and the pulse irregular and feeble. It has always been an enigma to me how the larvæ of these insects can eat honey derived from such plants as aconite, belladonna and digitalis with absolute impunity, when a very small quantity of the same honey produces marked toxic effects on the human subject.

In Nova Scotia we have very few poisonous plants which bear flowers, consequently poisoning by honey is unknown; but in England it is not at all an uncommon thing for children who have rifled a bumblebee's nest to be affected in the manner I have described. Trusting that I have not trespassed too much on your space, believe me,

Yours truly,
EDMUND JENNER, Apothecary.

SHERBROOKE, NOVA SCOTIA.

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To the Editor of the THERAPEUTIC GAZETTE.

SIR: I wrote you last week in reference to an article on poisonous honey, and since writing I find that the passage I alluded to occurs in Xenophon's Anabasis, Lib. iv, cap. xx, ad xxii. Freely translated the chapters run somewhat as follows: "But the beehives were very numerous there, and those of the soldiers who partook of the combs lost all their senses, and vomited, and it passed through them, purging them. . . . Now those who only ate a little were much like drunken men, but those who had eaten much resembled madmen and those who are about to die. . . . And it seemed in the army as if a rout had taken place, but on the following day they recovered their senses at about the hour they were taken ill, and none of them died; and on the third or fourth day they were recovered as if from taking medicine."

Ainsworth attributes this poisoning to honey gathered from the *Nerium Oleander;* other authorities to the *Datura Stramonium.*

I must apologize for troubling you with a second note on the subject. To my mind it is an interesting one, and I was glad to be able to find the passage in question.

Yours truly,
EDMUND JENNER, Apothecary.